



जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया-सुचानी, बागला, जिला सांबा - 181143 जम्मू, जम्मू एवं कश्मीर
Rahya- Suchani (Bagla), District Samba-181143, Jammu (J&K)

No. 4-5/CUJ/Reg/HRM/2019/412(A)

29 November, 2019

NOTIFICATION No. 81 /2019

Sub: Course Scheme and Syllabus Notification of 3rd semester of MBA w.e.f. Academic Session 2019-20 - Reg.

Ref: Notification No. 77 of 2018 dated 06.12.2018

It is hereby notified for the information of all concerned that, on the recommendations of the Board of Studies, Department of Human Resource Management & Organizational Behaviour and Dean, School of Business Studies, the Academic Council has approved the Course Scheme and Syllabus of 3rd semester of MBA w.e.f. Academic Session 2019-20. The approved Course scheme and Syllabus is as follows:

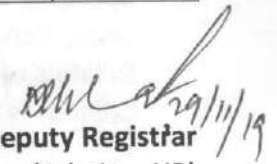
1 Semester – III

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core courses						
PGMBA3C001T	Strategic Management	4	25	25	50	100
PGMBA3C002T	Industry Internship	2	-	-	-	50
PGMBA3C001V	Viva Voce*	2	-	-	-	50
Elective Courses* (Any Five) Major 03 / Minor 02						
Elective Courses - Human Resource Management						
PGMBA3E001T	Organisational Development	4	25	25	50	100
PGMBA3E002T	Compensation and Reward Management	4	25	25	50	100
PGMBA3E003T	Industrial Relations	4	25	25	50	100
PGMBA3E004T	Industrial Psychology	4	25	25	50	100
PGMBA3E005T	Human Resource Development	4	25	25	50	100
PGMBA3E006T	Interpersonal and Group Processes	4	25	25	50	100
Elective Courses - Marketing Management						
PGMBA3E007T	Retail Management	4	25	25	50	100
PGMBA3E008T	Consumer Behaviour	4	25	25	50	100
PGMBA3E009T	Sales & Distribution Management	4	25	25	50	100
PGMBA3E010T	Marketing of Services	4	25	25	50	100
PGMBA3E011T	International Marketing	4	25	25	50	100
Elective Courses – Finance						
PGMBA3E012T	Security Analysis and Portfolio Management	4	25	25	50	100

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PGMBA3E013T	Indian Financial System	4	25	25	50	100
PGMBA3E014T	Financial Services	4	25	25	50	100
PGMBA3E015T	Financial Derivatives	4	25	25	50	100
PGMBA3E016T	Corporate Tax Planning	4	25	25	50	100
Interdisciplinary Course (Any One)						
	To be opted from IDCs offered by other Depts.	4	25	25	50	100
MOOC Course to be Opted as per availability on SWAYAM (Any One)						
		-	-	-	-	-
Total		32				800

Interdisciplinary Courses Offered to other Departments (Any One)						
PGHRM3I015T	Entrepreneurship Development	4	25	25	50	100
PGHRM3I016P	Project on Business Plan	4	-	-	-	100


 Deputy Registrar
 (Admin - HR)

Encl: Syllabus of 3rd semesters of MBA

To:
 Head, Department of HRM & OB

Copy to:
 OSD (Exam)

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG-MBA3C001T
Course Title: Strategic Management
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

The objective of this course is to present the students with the concepts and framework of strategic management. The students shall learn how to analyze company's business environment, select a strategy, and construct the organization necessary to put into action.

Unit I

Overview of Strategic Management; Concept of Strategy; Process of strategic management; Strategic Decision Making; Roles of a Strategist; Globalization and its Impact; Corporate Strategy and Corporate Governance; Strategic Intent; Vision, Mission, Goals and Objectives; Competitive Advantage

Unit II.

Environmental appraisal - Concept of Environment, Components of Environment; Environmental Scanning Techniques- ETOP and SWOT Analysis (TOWS); Organizational appraisal - Internal Environment; Strategic Advantage Profile and Methods for Organizational Appraisal; Industry Analysis; Value Chain Analysis; Competition and Competitive dynamics; Concept, Importance and Use of Core Competence

Unit III

Corporate Level Strategies- Stability, Expansion, Retrenchment and Combination; Business Level Strategies- Conditions, Risk and Benefits of Cost Leadership, Differentiation and Focus Leadership; Porters' framework of Competitive Strategies; Identification of Critical Success Competitive Positioning

Unit IV

Strategic Analysis & Choice- Process of Strategic Choice; Subjective factors in Strategic Choice; Techniques of Strategic Analysis (BCG Matrix, GE Nine Cell, Product Market Evolution, Directional Policy Matrix); Aspects of Strategic implementation; Resource Allocation: Issues in strategy implementation; Procedural Implementation; Structural Implementation; Behavioural Implementation; Operational Implementation

Unit V

Strategic Evaluation; Organizational System and Techniques of Strategic Evaluation; Strategic Control; Operational Control; Contemporary Issues in Strategic Management - Blue Ocean Strategy, Balanced Score Card, Judo Strategy, Organizational Change and Learning

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve 20% input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Pearce, Robinson & Mittal, Strategic Management: Formulation, Implementation and Control, TATA McGraw Hill Special Indian Edition, 10th Edition.
- ❖ Kazmi Azhar, Strategic Management & Business Policy, TATA McGrawHill, 3rd Edition, 2008.
- ❖ Fred David, Strategic Management: Concepts and Cases, Prentice Hall India, 12th Edition.
- ❖ Hill & Jones, Strategic Management: an Integrated Approach, Publisher Biztantara or Cengage, Sixth Edition.

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. **PGMBA3C002T**
Credit: **04**

**Course Title: Industry Internship
Maximum Marks: 50**

Course Objective:

The students shall undergo industrial training with a view to achieving maximum integration between theory and practice. The students shall expose themselves to all important areas of Management with a special emphasis on the HRM functions of the organization.

Content:

At the end of second semester, students will have to undergo summer training of 8-10 weeks with an industrial, business or service organization by taking up a project study approved by the department. The performance of the students shall be evaluated on the basis of the feedback given by the company supervising manager, reports submitted, presentation made by them on the study, attendance and Viva-Voce examination conducted by a panel of examiners including practicing managers or as per University Ordinance/Statues.

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PGMBA3E003T
Course Title: Industrial Relations
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

Main objective of the course is to provide an understanding of the conceptual framework and operational aspects of issues relating to industrial relations.

UNIT I

Understanding Industrial Relations (IR): Meaning, objective, scope and determinants; Dimensions of IR. Interaction among principle parties within social , economic, political contexts; Theories and evolution of IR in India; Framework for successful Industrial Relations programme.

UNIT II

Approaches to the study of IR; Industrial Conflicts: Nature, causes and the effect of industrial disputes; Industrial Disputes Act 1947; Machinery to resolve industrial dispute in India (Conciliation, Arbitration, Adjudication); Alternative dispute resolution.

UNIT-III

Trade Unions: Objectives, Structure and Strategies; Problems and prospects of Trade Unions; Role of Indian Labour Organization in Trade Union Movement; Recognition of Trade Unions; Trade Union Act, 1926 (Amendment Act, 2001) Factories Act 1948.

UNIT-IV

Collective Bargaining: Meaning , objective, approaches, strategies and process; Impact of collective bargaining on management of Industrial Relations; Workers participation and IR; Workers' education and training; Employer's Associations: Function, role and importance; Steering groups and Quality Circles.

UNIT-V

Unfair labour practices; Judicial delineation of unfair labour practices; code of discipline in industry; Contract Labour Act, 1970; Child Labour Prohibition and Regulation Act, 1986; Organizational safety and welfare in India; Future of Industrial Relations in India.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-Learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Reading:

- ❖ •Edwin B. Flippo, - Personnel Management — McGraw-Hill International, Edition, 1984
- ❖ David Lewin -Contemporary Issues in Employment Relations, Amazon Publications
- ❖ C.B Mamoria, S. Mamoria S.V. Gankar -Dynamics of Industrial Relations – Himalaya Publication House, 2010
- ❖ P. N. Singh. Neeraj Kumar- Employee Relations Management, Pearson, 2011-
- ❖ B. P. Singh-Personnel Management and Industrial Relations, Dhanpat Rai and Co.
- ❖ Dale Yoder- Personnel Management and Industrial Relations Prentice Hall of India
- ❖ Biswajeet Patnayak- Human Resource Management. Prentice Hall of India, 2006.

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG MBA 3E 001T
Course Title: Organizational Development
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

The purpose of this course is to learn to plan and implement change at the individual, group and organizational level. The course is designed to help the students to develop as potential change agents and OD professionals. The basic aim is to make the students understand the theory and practice the interventions effectively.

Unit I

Organisational Change: Concept and Significance, triggers for change, types, focus on individual, role teams, organization. Key roles in managing change: Consultant, internal resource persons, implementation team, chief implementer, role of change agents.

Unit II

Levels of Change: Knowledge, Attitudinal, Individual Behaviour and Organisational Performance Changes; Organisational Renewal and Challenge of Change: System Approach to Change, Future shock and Change, Cultural Resistance to Change, Planned Organizational Change: Concept and Models.

Unit III

Organizational Development: Concept and Assumptions; Historical Development, Process of OD; Issue in Consultant- Client Relationship, Indian Experience of OD in Public and Private Enterprises.

Unit IV

OD Interventions: Action research and organization development; Organizational tools; OD intervention: Factors affecting choice of OD intervention; Team interventions: Process consultation, Gestalt approach, group team building meeting, role analysis technique, role negotiating technique, force-field analysis, responsibility charting, organization mirror interventions, Third party peace-making, OD: Work-redesign, re-engineering,

Unit V

Implementing Change: Steps; Skills for managing change. Role of leadership in managing change. Managing transitions: introduction, rules stages, process, role of a leader in managing transition, Future of OD & New Perspectives.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve 20% input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings:

- ❖ French & Bell., "Organizational Development", Prentice Hall of India, New Delhi..
- ❖ Harvey, D.F. & Brown, D.R., An Experimental approach to organizational Development, prentice Hall of India, New Delhi.
- ❖ R.K. Gupta & Udai Pareek: Training for OD Facilitation, Prentice Hall of India, New Delhi
- ❖ Udai Pareek, "HRD & Organizational Development", Tata McGraw Hill, New Delhi.
- ❖ S. Ramanarayan, T.V. Rao and Kuldeep Singh: Organisational Development.

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG MBA 3E002T
Course Title: Compensation and Reward Management
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

To acquaint the students with dynamism of employee compensation packages and process of compensation management with emphasis on its role in achieving competitive advantage. It will also make the students familiar with skills required in formulating a compensation policy as well as planning a suitable package in line with the contemporary issues related to compensation.

Unit I

Employee Compensation Management. Concept, Process of determining, Economic and behavioral Issues. Wage concepts Minimum Wage, Fair wage, Living Wage Compensation - Introduction, Forms of pay, Significance of Employee Compensation.

Unit II

Pay model, Steps in developing a total compensation strategy internal alignment – determining the structure Job analysis – Job based approach, job analysis procedures, Job evaluation – concept, methods of job evaluation, Person based structures – skill plans, skill analysis, competency analysis, perfect structure.

Unit III

Salary survey: how to design the survey, interpretation of survey results, Employee contribution–Pay for performance plans, specific plans – short term, Team incentive plans, long term incentive plans, Performance appraisal – role & importance in compensation decisions.

Unit IV

Employee benefits – key issues in benefit planning, Components of benefit plan, administering the benefit program Benefit Options Role of union in wage & salary administration–impact of union in wage determination, alternative reward system.

Unit V

International Pay Systems, Legal and taxation issues in Compensation, Compensation of special groups (Executive Directors, scientists and engineers), Payment of Gratuity act 1972, Payment if PF act 1952.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve 20% input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested reading

- ❖ Milkovich & Newman, Compensation, Tata McGraw Hill Ed. 2008 Other Specific Book:
- ❖ Bhattacharyya Dipak; Compensation Management, Oxford Higher Education.
- ❖ Murlis and Armstrong, Reward Management, Kogan Page Publishers, 2007
- ❖ Tom Krattenmaker, Compensation: What's the Big Secret?, Harvard Business Publishing Newsletters, Oct 01, 2002.
- ❖ Karen Dillon, The Coming Battle over Executive Pay, Harvard Business Review, Sep 01, 2009.
- ❖ Jeffrey Pfeffer, Six Dangerous Myths About Pay, Harvard Business Review, May 01, 1998.
- ❖ Less Pain Peter L. Allen, Performance Appraisals with More Gain, Harvard Business Publishing Newsletters, Mar 01, 2003.
- ❖ Patricia K. Zingheim, Jay R. Schuster, E-Pay Changes Compensation--Forever (Guest Column), Harvard Business Publishing Newsletters, May 01, 2000
- ❖ Stephen F. O'Byrne, et.al. , How Much Should an Executive Make?, HBR, May 22, 2009

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No.: **PGMBA3E004T**
Course Title: **Industrial Psychology**
Duration of Examination: **3 Hrs**

Contact Hrs/Week: **4 Hrs**
Credit: **04**
Maximum Marks: **100**

Course Objective:

The purpose of this course is to familiarize and equip the students with the applications of psychological principles and techniques to minimize the problems related to work

Unit I Concept of Industrial Psychology:

Nature, Scope, Aims and Objectives of Industrial Psychology, History and development of the field of Industrial Psychology, Growth and Development of Industrial Psychology in India, Major problems of Industrial Psychology

Unit II Testing in Organisations and Job Analysis

Significance of Psychological Tests in Industries and Organizations, Approaches of Psychological Testing, Psychological Testing-Aptitude, Personality, Interest and achievement Tests, Job Analysis: Concept, Uses, Job Analysis Procedures, Job Psychograph, Composite Job Psychograph.

Unit III

Hawthorne Studies- Experiments on illumination, Relay assembly test room, Mass interviewing programme, Bank Wiring Observation Room, Personnel Counseling, Implications and Criticism of Hawthorne Studies
Attitude: Need and Importance of studying attitude in Industry, Consequences of unfavorable attitude, Measurement of attitude

Unit IV Job Satisfaction, Industrial Morale and Counselling

Job Satisfaction: Determinants and measurement
Industrial Morale: Determinants, measurement, Methods of increasing Industrial Morale
Counseling: Types and functions, Counseling with special groups at work like handicapped, aged, women.

Unit V Men and Machines:

Industrial accident: Causes, Reduction and Prevention of Accident, Industrial Fatigue: Nature, Measurement, Causes and Mitigation of Fatigue, Ergonomics: Concept and Importance, Human Engineering: Importance and Problems

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve 20% input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings:

- ❖ Blum & Naylor , Industrial Psychology, Sage Publications , New delhi
- ❖ Ghosh ,P.K. ,Industrial Psychology, Himalya Publications , New Delhi
- ❖ Schein E.H., Organisational Psychology, Prentice Hall Inc.
- ❖ Prem Kr. Ghosh ,Industrial Psychology Management , Anmol Publications Pvt. Ltd.
- ❖ Sharan A.K. ,Encyclopedia of Industrial Psychology, Anmol Publications Pvt. Ltd.
- ❖ Jucius, J.Michael : Personnel Management. Richard D Irwin Inc: Illinois
- ❖ Ghiselli, Edwin E. Snd Brown C.W. Personnel and Instruct psychology. McGraw -Hill Book Co. Inc: New York
- ❖ Dunnette M.D. and Hough, L.M. Handbook of Industrial and Organizational Psychology. Vol. 2 and 3, Jaico Publishing House: Delhi
- ❖ Schultz & Schultz, Psychology and Work Today. Pearson Publishers; 8th Ed.
- ❖ Miner, J.B., Industrial- Organisation Psychology. Tata McGraw Hill
- ❖ Riggio, Industrial/Organisational Psychology. Prentice Hall India; 4th

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. **PGMBA3E005T**
Course Title: **Human Resource Development**
Duration of Examination: **3 Hrs**

Contact Hrs/Week: **4 Hrs**
Credit: **04**
Maximum Marks: **100**

Course Objective

- To create a conceptual background required to undertake any activity to facilitate and manage the HRD functions in an organization.
- To acquaint the students about different HRD system
- To learn different techniques of developing people through HRD interventions.

Unit I: HRD- An Overview

Need for HRD, meaning, philosophy, goals and tasks; HRD and other functions; status of HRD in the organization; role of chief executives in HRD managers.

Unit II: Designing HRD Systems

Contextual factors and system designing; analysing the role for development; effective recruitment and placement systems; the training systems; training strategy; designing training programmes; training methods; the training climate, trainers style..

Unit III: Designing HRD System II

Performance appraisal in HRD; potential appraisal and career development; performance review and counselling; dual career groups, flexitime and flexi-work; developing the role; job enrichment; QWL and role effectiveness; developing self-rewriting capacity; issues in HRD system designing.

Unit IV: Strategies and Instruments for HRD Implementation

HRD mechanisms; process, outcomes and organisational effectiveness; mapping HRD practice-profile; HRD climate survey; HRD competencies checklist; training effectiveness test; performance, planning and development test; leadership style test; integrated HRD systems intervention strategies.

Unit V: HRD in the New Economic Environment

Role of HRD in the liberalised economy; new environment; corporate strategy and HRD agenda; HRD and TQM; technological change and HRD; HRD for blue collar workers in the new context; HRD in select organisation, HRD Audit, HR Scorecard

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve 20% input from those who demonstrated excellence in the area i.e. Practioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Khardelwal Anil K., Abraham, S.J., Verma K.K., Alternative Approaches and Strategies of HRD, National HRD Network, Rawat Publications, Jaipur,
- ❖ Maheshwari, B.L., Dharni, P. Sinha, Management of Change through HRD, National HRD Network, Hyderbaad, Tata McGraw Hill, 1991.
- ❖ Pareek Udai, Rao, T.U., Designing and Managing Human Resource Systems, Oxford & IBH Publication, New Delhi,
- ❖ Pareek, Udai, R.P. Lynton, Training for Development, Vistar Publications, New Delhi, Padaki Rupande, Pareek Udai, & Nair R.R., The HRD Response, Network , Bangalore, Tata McGraw Hill,
- ❖ Rao, T.V., HRD Missionary HRD Network, Jamshedpur, Tata McGraw Hill, 1990.

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG MBA3E007T
Course Title: Retail Management
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

The course shall enable the students to understand the concept, process and management of retail business and stimulate their interest in retail career by discussing opportunity and challenges in the retail industry.

Unit I: Nature and Importance of Retailing

Retailing And Retailers, Place Of Retailing In Marketing Mix, Retailing Economical And Social Importance, Value Added By Retailing Economic Justification, Size Of Retail Market, Operating Expenses And Profits. Retailing in India. Classifying Retail Firms: Firm Of Ownership, Operational Structure, Service And Price Orientation, Merchandise Offering.

Unit II: Store & Non Store Retailing

Type of Merchandiser, Single Line Store, General Store, Variety Store, Departmental Store, Supermarket, Superstore, Combination Store, Hypermarket, Discount Store, Warehouse Showroom, Catalogue Storing, In Home Retailing, Telephone Retailing, Catalogue Retailing, Direct Response Retailing, Wholesalers-Sponsored, Voluntary Chain, Retailers -Sponsored Cooperative Chain, Manufacturers - Sponsored Franchising System.

Unit III: Retail Strategy and Planning

Retail Perspective, International Expansion- Growth Strategy, Understanding the Retail Customer, Store Locations

Unit IV: Merchandise Management and Retail Decisions

Target Market Selection, Merchandise, Merchandise Planning and Management, Merchandise Buying, Retail Pricing and Merchandise Performance. Location, Size, Store Image, Design, Layout and Shop Design, In Store Promotion, Credit and Collections, Front Office Management: Personnel-Selection, Recruitment and Motivation.

Unit V: Creating & Sustaining Value and Trends in Retailing

Retail Marketing Communication, Servicing the Retail Customer, Supply Chain Management. Growth of Shopping Malls, Factory Outlet, Discount And Discount Malls, Power Retailer, Increasing Power Of Retailer Brand V/S Manufacturer Brand, Green Retailing, e-Tailing, ethical and legal issues in retailing.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve 20% input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ David Gilbert, Retail Marketing Management, Edition II, Pearson India
- ❖ Robert f. Lusch, Patrick Dunne, Myron Gable, Retail Management, South western Pub. Co. Ohio
- ❖ Pradhan Swapna, Retailing Management Text & Cases,2000, TMH Publications, New Delhi
- ❖ Witz, Levy. Retail Management, Edition III, Pearson Publication

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG MBA 3E008T
Course Title: Consumer Behaviour
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

This course is designed to help students to develop insight into consumer psychology and thereby understand how consumers comprehend & act to marketing stimuli.

Course Objective:

- To familiarize with the different facets of consumer behaviour.
- To create awareness of the theories of motivation and perception as applied in consumer behaviour.
- To acquaint with the communication and consumer decision making.
- To create awareness about the application of consumer behaviour in special types of markets.

Unit I: Introduction to Consumer Behaviour

Meaning and scope of consumer behaviour; level of analysis in consumer behaviour; relationship between consumer behaviour and behavioural sciences; applications of consumer behaviour in different areas of marketing; motivation and consumer behaviour.

Unit II: Motivation Theories and Perception

Motivation theories and their application; measurement of motivation and motivation research; meaning and application of perception; application of absolute and differential threshold in consumer behaviour; meaning and nature of personality.

Unit III: Models of Attitudes

Theories of personality and their application in consumer behaviour; self-concept and consumer research; attitudes and their characteristics; different models of attitudes; measurement of attitudes.

Unit IV: Communication and Decision-Making

Structure and process and communication; audience and source dimensions in consumer communication; medium and source dimensions; consumer decision making views; consumer decision making process.

Unit V: Markets and Consumer Behaviour

Meaning, scope and characteristics of organisational markets; industrial markets and its features; types of industrial buying decision process.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve 20% input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Leon G. Schiffman and Keslie, L. Kam K.: Consumer Behaviour, PHI, New Delhi. 2. Batra & Kazmi: Consumer Behaviour, Excel Books, New Delhi. 3. Kotler, Keller, Koshy and Jha: Marketing Management, Pearson Education

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG MBA3E009T
Course Title: Sales and Distribution Management .
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

To develop an insight in personal selling, sales management and analyse the managerial aspects of sales force management and create an understanding among learners about the dynamics of channel management and the role of out-bound logistics in effective distribution management

Unit I

Personal Selling: Types of selling – Alternative Sales Structures: Network Marketing – Mail order selling – Elements of direct marketing – Teleshopping – Telemarketing – Systems selling. The selling process – Strategies and Styles – formulating sales objectives – Sales forecasting – Estimating market and Sales Potentials

Unit II

The Sales Force: Size of the sales force, sales organization based on customer, geography, product and combinations and current trends – sales training programs and motivating the sales force – sales force compensation, sales incentives and sales force evaluation – controlling the sales effort – sales quotas, sales territories, sales audit.

Unit III

Physical Distribution: participants in the physical distribution function, the environment of physical distribution – Channel Design strategies and structures, selecting channel members, setting distribution objectives and tasks – Target markets and channel design strategies.

Unit IV

Managing The Marketing Channel: Product, Pricing and Promotion issues in channel Management and Physical Distribution – Motivating channel members – Evaluating channel member performance – Vertical marketing systems – Retail co-operatives, Franchise systems and corporate marketing systems.

Unit V

E-enabled selling and distribution: e-Commerce and e-retailing as a channel of distribution, Electronic intermediaries, Disintermediation and Re-intermediation, e-enabled logistics management and tracking systems.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve 20% input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Donald Cowell, Marketing of Service, Heinemann, London
- ❖ Harsh V. Verma, Services Marketing: Text and Cases, 2/e By, Pearson Education India
- ❖ Jha S.M.: Services Marketing, Himalaya Publishing House, New Delhi
- ❖ Jochen Wirtz, Christopher Lovelock, Services Marketing: People, Technology, Strategy Eighth Edition, World Scientific Publishing Company
- ❖ K. Douglas Hoffman, John E.G. Bateson. Services Marketing: Concepts, Strategies, & Cases, Cengage Learning
- ❖ Lovelock, C.H.: Services Marketing, Prentice Hall, London.
- ❖ Matin Khan: Sales and Distribution Management, Excel Books,
- ❖ Panda and Sahadev: Sales and Distribution Management: Oxford University Press, Delhi
- ❖ Spiro, Stanton and Rich: Management of Sales Force, Tata McGraw Hill, NewDelhi
- ❖ Valarie A Zeithaml, Mary Jo Bitner, D D Gremler and Ajay Pandit, Services Marketing: Integrating Customer Focus Across the Firm Tata Mc Graw Hills

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG MBA 3E010T
Course Title: Marketing of Services
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective(s):

- This course aims to help participants appreciate the ever increasing significance of services in the economies.
- Students will learn to develop a framework for recognizing and analyzing management problems in service industries and designing competitive strategies.
- This course will be of particular value to those who intend to work in a service organization or have a need to understand service organization from a point of view of investing or starting their own service business.

Unit I

Introduction to Services Marketing; Difference between goods and services; Characteristics of Services; Services Marketing Mix ; The Gaps Model of Service Quality –Customer gap & Provider Gaps

Unit II

Consumer Behaviour in Services; Customer Expectations of Services ; Consumer Perception of Services ; Consumer Satisfaction ; Dimensions of Services Quality ; Service Encounters ; Moment of Truth

Unit III

Services Marketing Research; Building Customer Relationships through marketing; Service Failure and Service Recovery; Service Guarantee; Service Innovation and Design ; Service Blue Print

Unit IV

Customer Defined Service Standards; Physical Evidence and Servicescape; Employees Role in Service Delivery; Service Culture; Customers Role in Service Delivery

Unit V

Service Distribution; Role of Intermediaries; Electronic Distribution; Managing Demand and Capacity; Integrated Services Marketing Communication; Pricing of Services.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Donald Cowell,: Marketing of Service, Heinemann, London
- ❖ Harsh V. Verma, Services Marketing: Text and Cases, 2/e By, Pearson Education India
- ❖ Jha S.M.: Services Marketing, Himalaya Publishing House, New Delhi
- ❖ Jochen Wirtz, Christopher Lovelock, Services Marketing: People, Technology, Strategy Eighth Edition, World Scientific Publishing Company
- ❖ K. Douglas Hoffman, John E.G. Bateson. Services Marketing: Concepts, Strategies, & Cases, Cengage Learning
- ❖ Lovelock, C.H.: Services Marketing, Prentice Hall, London.
- ❖ Valarie A Zeithaml, Mary Jo Bitner, D D Gremler and Ajay Pandit, Services Marketing: Integrating Customer Focus Across the Firm Tata Mc Graw Hills

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG MBA 3E011T
Course Title: International Marketing
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objectives:

- To help the students in identifying the suitable modes of foreign market entry.
- To acquaint the students with the intricacies associated with international marketing.
- To familiarize with the EXIM documentation procedures.

Unit I:

Introduction Definition and scope, bases of international trade; methods of entry, major international economic institutions and trading blocks, WTO and sectoral impacts.

Unit II

Product and Pricing Decisions Foreign market identification; product decisions; price and non-price factors; pricing decisions and methods.

Unit III

Promotion and Distribution International promotion; cross-cultural dimensions of advertising; distributional channels; institutional infrastructure for exports.

Unit IV

Export Policy and Procedures EXIM policy and export assistance, export-import procedure and formalities; export finance.

Unit V

Export Documentation and Import outline Export documentation; import documents; negotiation of documents; outline of import procedures.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Terpstra & Sarathi: International Marketing, Harcourt Asia, 8th Edition.
- ❖ Caterora & Graham: International Marketing, Pearson Education, 2000.
- ❖ Keegan, Warren J.: Global Marketing Management, Pearson Education, 2007.
- ❖ Nabhi Jain: How to Start Import, Jain Book Depot, 2007.

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PG MBA 3E012T
Course Title: Security Analysis And Portfolio Management
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

To train students in conducting qualitative and quantitative analysis of a company, valuing financial securities, and analyzing investment attractiveness of various types of securities

Unit I: Introduction to Security Analysis:

Securities Market, Securities Analysis, Portfolio Analysis, Portfolio Selection, Portfolio revision, Portfolio evaluation, Evolution of Portfolio Management, Role of Portfolio management, Financial Derivatives, Risk/Return Analysis-- required rate of return, Measures of Risk, relationship between Risk and Return-- security market line (SML), efficient frontier, capital assets pricing model (CAPM) .

Unit II: Efficient Market Theory & Technical Analysis

Need of efficient markets, alternative market hypotheses, forms of markets, implications of efficient markets. Top--down model, valuation process: Economic analysis-- economic cycles, leading and trailing economic indicators, economic variables and stock prices. Dow theory, Price charts, Trend and trend reversals, Chart patterns, Elliot Wave Theory, Market Indicators

Unit III: Fundamental, Industry and Company Analysis

Industry life cycle, competition analysis, impact of structural economic changes on industry Security Valuation (Company Analysis): Competitive strategies, focusing a strategy, growth company and growth stocks, cyclical, counter--cyclical, and defensive stocks, speculative stocks, value vs. growth investing.

Unit IV: Portfolio Management

Portfolio theory, risk and risk aversion, Markowitz portfolio theory. Measures of Portfolio Risk-- expected return of a portfolio variance and standard deviation of a two--asset portfolio, correlation and risk--return trade off of a two--asset portfolio, Efficient Frontier-- efficient frontier and investor utility, combining risk--free and risky assets, market portfolio as the optimal risky portfolio.

Unit V: Portfolio Evaluation

Composite Portfolio Performance Measures, Treynor measure, Sharpe measure, Jensen measure, information ratio measure, time--weighted and rupee--weighted returns

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Bodie, Z., Kane, A., Marcus, A. J., & Mohanty, P. (2009). Investment (6th ed.). New Delhi: Tata McGraw Hill.
- ❖ Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. (2009). Modern portfolio theory and investment analysis (8th ed.). New York: Wiley.
- ❖ Fabozzi, F. J., & Markowitz, H. M. (Eds.). (2002). The theory and practice of investment management. New Jersey: John Wiley.
- ❖ Grinold, R. C., & Kahn, R. N. (2007). Active portfolio management: A quantitative approach for providing superior returns and controlling risk (2nd ed.). New Delhi: McGraw Hill.
- ❖ Kevin, S. (2006). Portfolio management (2nd ed.). New Delhi: PHI Learning.

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PGMBA3E013T
Course Title: Indian Financial System
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

This Course aims at making students conversant with the latest conceptual understanding about various aspects of a financial system with particular reference to Indian Financial System and to grasp mechanics of various financial instruments, financial services and institutions.

Unit - I

Financial Systems: Significance, Functions and structure of financial system, Indian financial system, Financial Dualism. Financial instruments: Debentures, Shares, ADRs, GDRs and ECBs. IPO Process Listing and Trading, Derivative trading – Futures & options contracts

Unit - II

Money Market: Meaning and Functions, Constituents of Money Market: Call Money Market, Treasury Bill Market, Certificate of Deposit Market, Commercial Bills Market and Commercial Paper Market. Method of Auction of Treasury bills, RBI's Negotiated Dealing System, CCIL and its role as inter-bank market maker, FIMMDA and its role in money market.

Unit - III

Capital Market : Concept; Structure and Functions of Capital Market; Primary Market its role & Functions, Methods of selling securities in Primary Market, SEBI Guidelines for different types of issues, procedures for Pricing of new issues, Appointment & role of Merchant Bankers, Underwriters, Lead Managers, Brokers, Bankers & Registrars. Allotment of shares, Secondary Market-Role & Organisation of stock exchanges. Types of stock exchanges. Listing & De-listing of securities. Screen based Trading System and Settlement.

Unit - IV

Financial Institutions: Commercial Banks: Functions and management. Reserve Bank of India – Role & Functions. Development Financial Institutions: Types, Role, functions, Non-Banking Financial Companies (NBFCs) : Concept, Types, Role and functions, RRBs : Role & Functions.

Unit - V

Introduction to Commercial Banking, Types of deposit liabilities and loan assets, bank credit, types, features, credit process, modes of credit delivery, legal aspects of lending. Off-Balance sheet items.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Pathak, Bharti V. The Indian Financial System, 2nd Edition; Pearson Education, India
- ❖ Khan, M. Y. Indian Financial System; Tata McGraw Hill New Delhi
- ❖ Bhole, L. M. Indian Financial System; Tata McGraw Hill New Delhi
- ❖ Bhole, L. M. Financial Institutions & Markets Structure, Growth & Innovations; Tata McGraw Hill New Delhi
- ❖ Varshney, P.N. Indian Financial System Sultan Chand & Sons, New Delhi

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PGMBBA3E014.T
Course Title: Financial Services
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective(s):

- Understanding the nature and role of financial services, the guidelines and framework within which they operate and the purpose of these services and their role in the development of financial markets

Unit I:

Introduction Evolution and Role of Financial Services Companies in India, Regulatory Environment of Financial Service, Trends & Developments in the area of financial services, Virtual Delivery of financial Services, Management of Capital Issues Pre-Issue Activities, Management of Capital Issues - Post Issue Activities, Pricing and Marketing of Public Issues

Unit II:

Leasing and Securitisation Legal & Tax aspects leasing, Lease evaluation, International leasing, Hire Purchase and Instalment sale. Securitisation, Introduction for mutual funds, Mutual Funds and Venture Capital Types & classification of Mutual Fund schemes, Operations and Management of Mutual Funds in India, Venture Capital, Issues in Venture Capital Financing

Unit III:

Credit Financing and Insurance Factoring, Bill Discounting, Forfeiting, Credit Rating, Consumer Finance, Credit Cards, Insurance

Accounting and Finance fundamentals and Valuation analysis Financial statement and cash flows, time and value, interest rate and fixed return securities valuation, return and equity valuation

Unit IV

Financial analysis, Planning and control Financial performance metrics, working capital management, strategic financial planning, Investment strategies and decisions Capital expenditure management, capital investment decision and strategic valuation, strategic valuation issues

Unit V:

Financial Policy Financing structure and cost of capital, financing sources and strategies, leases, dividend policy and share repurchases, Growth strategies for increasing value Mergers and acquisition, strategic risk management, international financial management

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Brealy, Richard, Stewart Myers and Franklin Allen, Principles of Corporate Finance, 8th edition, Tata-McGraw Hill
- ❖ Grinblatt, Mark and Sheridan Titman, Financial Markets and Corporate Strategy, 2nd edition, Tata McGraw-Hill.
- ❖ Kester, Carl W., Richard Ruback and Peter Tufano, Case Problems in Finance, 12th edition, Tata-McGarw Hill, 2007.
- ❖ M.Y. Khan: Financial Services, Tata Mc Graw Hill
- ❖ Peter S. Rose & Sylvia C. Hudgins: Bank Management & Financial Services, Mc Graw Hill International Edition
- ❖ Weaver, Samuel, C., and J Fred Weston, strategic Financial Management: Application of Corporate Finance, 1st edition, south-Western Publishing, 2007

*** Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. **PGMBA3E015T**
Course Title: **Financial Derivatives**
Duration of Examination: **3 Hrs**

Contact Hrs/Week: **4 Hrs**
Credit: **04**
Maximum Marks: **100**

Course Objective(s):

- To impart an understanding of the characteristics of the financial derivatives such as options, Futures and swaps.
- To develop familiarity with the different pricing models of financial derivatives.
- To hone skills in application of derivatives for risk management.

Unit I

Introduction to Financial Derivatives An overview of derivative contracts: Forward, Futures, swaps and options; Importance of derivatives in risk management; Derivative markets in India: exchange-traded and over the counter; Trading mechanism of derivatives in India

Unit II

Forwards and Futures Quantitative foundations for derivative analysis; Mechanics of futures and forward contract; Hedging strategies using futures and forward; Pricing forward and futures contract

Unit III

Interest and index Futures and options Interest rate futures and pricing; Stock index futures and pricing; Swaps: mechanics, use and valuation; Options: The basics

Unit IV

Option Pricing Models Binomial options pricing model; The Black and Scholes Model; Options hedging strategies; Estimating volatilities

Unit V

Other Derivatives and derivative disasters Value-at-Risk, Credit derivatives; Exotic options Derivative mishaps

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ John C. Hull, Options, Futures and other derivatives, Sixth edit., Pearson Education
- ❖ David, A. Dubofsky and Thomas W. Miller, Derivatives: valuation and management, Oxford Univ. Press, 2003
- ❖ S.S.S. Kumar, Financial Derivatives, Prentice-Hall of India, 2007
- ❖ Salih, N., Neftci, An Introduction to mathematics of financial derivatives, 2nd edit, Academic Press
- ❖ Rene , M., Stulz, Risk Management and derivatives, 2003, Thomson –South Western

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. **PGMBA3E016T**
Course Title: **Corporate Tax Planning**
Duration of Examination: **3 Hrs**

Contact Hrs/Week: **4 Hrs**
Credit: **04**
Maximum Marks: **100**

Course Objective(s)

- To provide basic understanding Indian commercial tax laws
- To apply tax laws in financial decisions making

Unit I

Introduction : Basic concept of taxation, Basic concept of corporate taxation, Brief history of corporate taxation in India, Residential status of firms, Computation of income from different heads

Unit II

Set Off and Carry Forward Set off and Carry forward, Set off and Carry forward normal business losses, set off and Carry forward: capital gains and losses Carry forward of unabsorbed depreciation and other allowances

Unit III

Profit Calculations Calculation of profit, Calculation of profit and determination of tax liability, Scope of tax calculation, Profit and surtax, Computation of tax liability under different conditions

Unit IV

Tax Incentives Taxation and location of company, tax incentive on location, size, nature of products and on types of activities.

Unit V

Tax Planning in Specific Situations Tax planning on mergers and acquisitions, on financing decisions and specific managerial decisions in these situations

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Singhania V.K., Corporate Tax Planning, TMH
- ❖ Gupta and Gupta, Corporate Taxation in India, Himalya Publishing House, New Delhi
- ❖ www.icfi.org 4. www.icaai.org

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. **PGHRM31015T**
Course Title: **Entrepreneurship Development**
Duration of Examination: **3 Hrs**

Contact Hrs/Week: **4 Hrs**
Credit: **04**
Maximum Marks: **100**

Course Objective

- To create understanding of the concept and process of entrepreneurship
- To develop a practical understanding of formulating a business proposal
- To understand various functional; plans for starting new business

Unit I

Entrepreneurship: Concept, knowledge and skills requirement; characteristic of successful entrepreneurs; role of entrepreneurship in economic development; entrepreneurship process; factors impacting emergence of entrepreneurship; managerial vs. entrepreneurial approach and emergence of entrepreneurship.

Unit II

Starting the venture: generating business idea – sources of new ideas, methods of generating ideas, creative problem solving, opportunity recognition; environmental scanning, competitor and industry analysis; feasibility study – market feasibility, technical/operational feasibility, financial feasibility; drawing business plan; preparing project report; presenting business plan to investors.

Unit III

Functional plans: marketing plan – marketing research for the new venture, steps in preparing marketing plan, contingency planning; organizational plan – form of ownership, designing organization structure, job design, manpower planning; Financial plan-cash budget, working capital, Performa income statement Performa cash flow, perform balance sheet, break even analysis.

Unit IV

Need for funds, technology and facilities, Acquisition, Allocation and Administration of Funds, Sources of Finance: Debt or equity financing, commercial banks, venture capital; financial institutions supporting entrepreneurs

Unit V

Legal Issues: Intellectual property rights patents, trademarks, copy rights, trade secrets, licensing; franchising. Project Identification (Feasibility study), Project Formulation, Preparation of Formal Project Report, Project Appraisal, Social Cost Benefit Analysis.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve 20% input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Baumbach C.M. & Mancuso, J.R., Entrepreneurship and Venture Management, Taraporevala, Bombay, 1981.
- ❖ Khanka S.S., Entrepreneurial Development, S. Chand & Company, New Delhi, 2001.
- ❖ Desai, V., Management of a Small Scale Industry, 3rd ed., Himalaya, Bombay, 1986.
- ❖ Taub, R.P. & Taub D.L., Entrepreneurship in India's Small Scale Industries, Manohar, New Delhi, 1989.
- ❖ Tewari, V.K., Philip J. & Pandey, A.N., Small Industry Success and Failure Concept, New Delhi, 1981.

**Syllabus of Master of Business Administration (MBA)
for the academic year 2019-20, 2020-21**

Course No. PGHRM31016P
Course Title: Project on Business Plan
Maximum Marks: 100

Contact Hrs/Week: 5 Hrs
Credit: 04

Course Objective:	3 rd Semester students of any department can opt to undertake Project Work in lieu of the elective course for experiential learning
Course Content:	The guidelines and detailed instructions to complete the PROJECT will be given by the mentor allocated by the Head of Department
Evaluation:	This project report to be evaluated by faculty member of other department nominated by Head and Viva Voce shall be conducted by the concerned faculty as per the distribution of marks given below. Distribution of Marks: Viva Voce: 50 Report Evaluation and Presentation: 50 Total:100

UNIT 1

Identification of product/service that emphasizes customer benefits, An explanation of the market role of product/service and advantages it has over competitors, Information about the product/service's life cycle

UNIT 2

Detailed description about the company, The legal structure of business (corporation, sole proprietorship, etc.), A brief history, the nature of business, and the needs or demands to be supplied, An overview of customers, and suppliers, Short- and long-term business goals

UNIT 3

Identification of targeted customer segments, including size and demographics of each group, An industry description and outlook, Historical, current and projected marketing data for your product/services, Evaluation of your competitors, highlighting their strengths and weaknesses

UNIT 4

Company functioning, including the operations cycle (from acquisition of supplies through production to delivery), Costs, pricing, promotions, and distribution/logistics, Information on sources of labor and number of employees, An organizational chart with descriptions of departments and key employees, Operating hours and facilities

UNIT 5

Realistic prospective financial information, Projected income statements, balance sheets and cash flow statements, and capital expenditure budgets, A brief analysis of your financial data, featuring trend analysis.

**Syllabus of Master of Business Administration (Human Resource Management)
for the academic year 2019-20, 2020-21**

Course No. PGMBA3E006T
Course Title: Interpersonal and Group Processes
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objectives

- Providing the students a conceptual framework of understanding and analyzing interpersonal processes
- Helping the students to manage organizational processes

Unit I

Introduction to Organizational Processes Organizations as social systems; Understanding interpersonal behavior, Understanding Groups, Interpersonal communication.

Unit II

Interpersonal awareness and feedback – functions, process, strategies for effective feedback; Interpersonal Trust – concept, importance, development of trust, rebuilding trust; Transactional Analysis

Unit III

Group – Definition; Types of groups – Formal, Informal; Reasons for Group formation; Group Development; Group Structure; Group Communication

Unit IV

Introduction to Group Dynamics; Group Performance; Group decision making; Group Cohesiveness and Synergy; Teams and team work; Team Building; Managing teams

Unit V

Leadership and groups; Transformational Leadership; Conflict and Negotiation; Inter Group Conflict; Conflict Resolution Strategies

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will involve input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Cummings T. G. and Worley C.G, Organization Development and Change, Cengage Learning
- ❖ Hersey P. et. al, Managing Organizational Behavior, 7th ed, PHI, N. Delhi.
- ❖ Newstrom J W and K Davis : Organizational Behavior: Human Behavior at Work, 5th ed, New Delhi: Tata McGraw.
- ❖ Cartwright R. et. Al, Managing People, Blackwell, Oxford.
- ❖ Christopher E. M. and Smith L. E, Leadership Training, Viva, London.



Department of Mathematics
CENTRAL UNIVERSITY OF JAMMU

DST-FIST Sponsored Department
Rahya-Suchani (Bagla), District Samba-181143, Jammu (J&K)

No: CUJ-Math/2019/310

Date: 21-11-2019

To
The Dean,
School of Basic and Applied Sciences
Central University of Jammu

Sir,

A meeting of Board of Studies in Mathematics was held on 02-05-2019 at 11:00 am in the chamber of Head, Department of Mathematics, Central University of Jammu, Rahya Suchani (Bagla), Samba.

Please find enclosed herewith the minutes of meeting and revised syllabi for the Academic Council in the anticipation for the School Board.

Thanking you

Yours Sincerely

AJ Sharma
21/11/19

Dr. Ajay K. Sharma
Head, Department of Mathematics

Minutes approved in school meeting
Participation of Dean
21/11/19
Dean
School of Basic & Applied Sciences
Central University of Jammu

AJ Sharma
Department of Mathematics
Central University of Jammu



CENTRAL UNIVERSITY OF JAMMU

Department of Mathematics

DST-FIST Sponsored Department

Rahya-Suchani (Bagla), District Samba-181143, Jammu (J&K)

Minutes of the meeting of Board of Studies of the Department of Mathematics on 02-05-2019

A meeting of Board of studies in Mathematics was held on 02-05-2019 at 11:00am in the chamber of Head, Department of Mathematics, Central University of Jammu, Rahya-Suchani (Bagla), Samba the following were present:

1. Dr. Ajay K. Sharma, Head of the Department (Chairman)
 2. Prof. S.D Sharma, Department of Mathematics, CU Jammu
 3. Dr. V. K Bhat, Department of Mathematics, SMVD University Katra (Member)
 4. Prof. Mohammad Hassan Shaid, Department of Mathematics, Jamia Millia Islamia, New Delhi
 5. Dr. Kamlesh Kumar, Department of Mathematics
 6. Dr. Arvind Selwal, Department of CS & I.T, CU Jammu
- (i) The BoS in Mathematics confirmed the action taken by Head, Department of Mathematics in recommending the panel of experts for various courses in M.A/ M.sc Mathematics semester II and IV.
- (ii) The BoS in Mathematics also revised and approved the syllabi of M.A. M.Sc Mathematics for the sessions 2018-19, 2019-20, 2020-21, the detailed scheme of the course for the III and IV semester are as follow:

Semester -III

	Course no	Title	Credits	Total Marks
Core Courses		Fields and Galois Theory	04	
		Functional Analysis	04	
		Differential Geometry of Curves and Surfaces	04	
Elective-III(Discipline)		Advanced Measure Theory or	04	
		Fourier Analysis or	04	
		Finite Fields and Coding Theory	04	
Elective (Inter)		Electives offered by other	04	

Kamlesh Kumar

AD Sharma

disciplinary)		Departments		
Foundation Elective-II (Skill based)		Probability and Statistics	04	
Minor Project		To be completed in two semesters i.e semester -III & IV and project Report shall be evaluated at the end of semester -IV	08	
Total				

Semester -IV

	Course no	Title	Credits	Total Marks
Core Courses		Discrete Mathematics	04	
		Introduction to Cryptography	04	
		Operator Theory	04	
Elective-IV(Discipline)		Topological Vector Spaces or Fourier Analysis	04	
			04	
Elective (Inter disciplinary)		Electives offered by other Departments	04	
Foundation Compulsory-II (Skill based)		Stochastic Processes	04	
Minor Project		Work already done in semester-III to be continued and project Report will be submitted at the end of this semester	08	
Total				

(iii) To confirm action taken by the Ph.D. Admission Committee in admitting the following candidates to pursue Ph.D. programme in the Department of Mathematics.

- (a) Parmeet Kour Chahal
- (b) Vishal Sharma
- (c) Vivek Kumar

(iv) Board of Studies considered the registrations cases of the following three scholars of the Department of Mathematics for pursuing Ph.D programme in the



Department of Mathematics. After through deliberations BoS recommended them for the regulations under the supervisors mentioned against each scholars.


S.no	Name of the Scholar	Supervisor	Title of synopsis
1.	Aakriti Sharma	Dr. Ajay K. Sharma	A Linear Combination of a Special Class of Operators included by Holomorphic Maps
2.	Parveiz Nazir Lone	Dr. Deep Singh	Applications of Algebra in Cryptosystems for Two Dimensional Data
3.	Umar Hussain Mir	Dr. Deep Singh	Multilayer Security for Multi- Dimensional Data in Cryptography


The BoS in Mathematics also approved the following panel of experts for the conduct of project viva voce examination M.Sc IV semester students.

- (1) Dr. Sartaj Ul Hassan, Assistant Professor, IIT Jammu.
- (2) Dr. Kuldeep Raj, Assistant Professor, Shri Mata Vaishno Devi University.
- (3) Dr. Rakesh Kumar, Assistant Professor, Shri Mata Vaishno Devi University
- (v) The BoS in Mathematics also authorised Head of the Department to submit panel of examiners for evaluation of Ph.D Thesis to be submitted by the scholars of the department in anticipation of Board of Studies.



Prof. S.D. Sharma


Dr. Kamlesh Kumar


Dr. Arvind Selwal


Prof. V.K. Bhat

Prof. M. H. Shaid


Dr. Ajay K. Sharma



जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया-सूचानी, बागला, जिला सांबा - 181143 जम्मू, जम्मू एवं कश्मीर
Rahya- Suchani (Bagla), District Samba-181143, Jammu (J&K)

No. CUJ/ACAD/4-2/Math/CUJ/Reg/2019/421

04 November, 2019

NOTIFICATION No. 85/2019

Sub: Course Scheme and Syllabus of 3rd and 4th Semesters of M.A / M.Sc. Mathematics w.e.f. Academic Session 2019-20 – Reg.

Ref: 4-2/Math/CUJ/Reg/2013/1619 dated 24.06.2016

It is hereby notified for the information of all concerned that on the recommendation of the Board of Studies, Department of Mathematics and School Board, School of Basic and Applied Sciences, the Academic Council has approved the following **Course Scheme and Syllabus** of 3rd and 4th semesters of M.A / M.Sc. Mathematics w.e.f. Academic Session 2019-20:

Semester - III

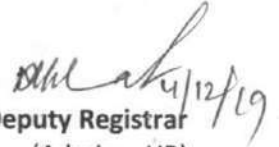
Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core courses						
PGMAT3C004T	Fields and Galois Theory	4	25	25	50	100
PGMAT3C005T	Functional Analysis	4	25	25	50	100
PGMAT3C006T	Differential Geometry of Curves and Surfaces	4	25	25	50	100
Elective Course – III (Discipline) (Any One)						
PGMAT3E005T	Advanced Measure Theory	4	25	25	50	100
PGMAT3E006T	Finite Fields and Coding Theory					
Foundation Elective – II (Skill Based)						
PGMAT3F006T	Probability and Statistics	4	25	25	50	100
Minor Project						
PGMAT3C007P	To be completed in two semesters i.e. Semester III and IV and Project Report shall be evaluated at the end of Semester – IV	8	-	-	-	200
Elective Course (Interdisciplinary)						
	Electives offered by other Departments	4	25	25	50	100
Total		32	-	-	-	800

Semester - IV

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core courses						
PGMAT4C004T	Discrete Mathematics	4	25	25	50	100
PGMAT4C005T	Introduction to Cryptography	4	25	25	50	100
PGMAT4C006T	Operator Theory	4	25	25	50	100
Elective Course – IV (Discipline) (Any One)						
PGMAT4E005T	Topological Vector Spaces	4	25	25	50	100
PGMAT4E006T	Fourier Analysis					
Foundation Elective – II (Compulsory)						
PGMAT4F006T	Stochastic Processes	4	25	25	50	100

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Minor Project						
PGMAT4C007P	Work already done in Semester – III to be continued and Project Report will be submitted at the end of this Semester	8	-	-	-	200
Elective Course (Interdisciplinary)						
	Electives offered by other Departments	4	25	25	50	100
	Total	32	-	-	-	800


 Deputy Registrar
 (Admin – HR)

Encl: Syllabus of 3rd and 4th Semesters

To:
Head, Department of Mathematics

Copy to:
OSD (Exam)

Course code: PGMAT3C004T

Course title: Fields and Galois Theory

Course Credits: 4

Unit-1

- Field: Definition and Examples, Types of fields, algebraic and transcendental elements, minimal polynomial of an algebraic element, simple extension
- Degree of a field extension, multiplicative property of degree, Classification of Quadratic extensions,

Unit-2

- Straight edge and compass constructions: constructible numbers, degree of a constructible number, trisection of an angle, Construction of regular polygon
- Splitting Field of a Polynomial: Existence and Uniqueness, Multiple Roots, Perfect Field

Unit-3

- Galois group, Examples, Artin Lemma, Separable and Normal extensions, Galois extension, Fundamental Theorem of Galois Theory
- Fundamental Theorem on symmetric polynomials, Symmetric rational functions

Unit-4

- Solvability by radicals, Galois group of a polynomial, Cyclotomic field and its Galois group
- Galois group as permutation group of the roots

Unit-5

- The general equation of the n th degree, Abel-Ruffini Theorem, Equations with rational co-efficients and Symmetric group as Galois group
- Constructible regular n -gons, Cyclotomic fields over \mathbb{Q} .

Recommended Texts.

1. N Jacobson, Basic Algebra, Vol.- I, second edition, Dover Publications, 2012
2. P B Bhattacharya, S K Jain, S R Nagpaul, Basic Abstract Algebra, Second edition, Cambridge University Press, 1994.
3. M Artin, Algebra, Second edition, PHI Learning Private Limited, New Delhi, 2012.
4. I N Herstein, Topics in Algebra, Wiley Eastern Ltd., New Delhi, 1975.

 P. Singl Karishkumar
  

Course Title: Functional Analysis
Course Code: PGMAT3C005T

Duration of Examination: 3 hours
Maximum Marks: 100

Objective: Functional Analysis plays an increasing role in the Applied Sciences as well as in Mathematics itself. Consequently, it becomes more and more desirable to introduce the student to the field at an early stage of study.

Unit-I

Normed linear spaces, Banach Spaces and examples, subspace of Banach space, Completion theorem, properties of finite dimensional normed linear spaces and subspaces, equivalent norms, compactness, F. Riesz's Lemma, linear operators and examples, Inverse operator.

Unit-II

Bounded and continuous linear operators and examples, properties of bounded linear operators, relations between bounded and continuous linear operators, linear functionals and their properties, dual spaces. Find duals of \mathbb{R} , c , l , $0 < p < \infty$.

Unit-III

Hahn-Banach Theorem for real linear spaces, Complex linear spaces and normed linear spaces, Adjoint operator, Reflexive spaces, Uniform Boundedness Theorem, Baire's Category Theorem(statement), Strong and weak convergence, convergence of sequences of operators and functionals, Open mapping Theorem, Closed Graph Theorem with examples and counter examples.

Unit-IV

Inner product spaces, Hilbert space, parallelogram Law, Orthogonal Complements and Direct Sums, orthonormal sets and Sequences, Pythagorean Relation, Bessel's inequality, series related to orthonormal sequences and sets, Total orthonormal sets and sequences, Separable Hilbert spaces.

Unit-V

Legendre, Hermite and Laguerre Polynomials, Riesz's Representation Theorem, Hilbert adjoint operator, properties of Hilbert adjoint operator, Reflexive spaces, Self-adjoint, unitary and normal operators.

Text book:

• Erwin Kreyszig, Introductory Functional Analysis with Applications, John Wiley & Sons, USA, 1989.

Reference books:

- George F. Simmons, Introduction to Topology and Modern Analysis, McGraw-Hill International editions.
- Martin Schechter, Principles of Functional Analysis, AMS, second edition, 2002.
- John B. Conway, A course in Operator Theory, AMS, 2000.
- Balmohan V. Limaye, Functional Analysis, New age International (P) Limited, Publishers, second edition, 1996.



Kamlesh Kumar



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Course code: PGMAT3C006T

Course Title: Differential Geometry of Curves and Surfaces

Course Credits: 4

Unit-1

- Curves in the plane, arc length, reparametrization, plane curvature, Euler Theorem for plane curves, oriented curvature, Fundamental Theorem for curves in \mathbb{R}^2 .
- Curves in space, curvature and torsion, Serret-Frenet formulae, Fundamental Theorem for curves in \mathbb{R}^3 .

Unit-2

- Surfaces in \mathbb{R}^3 (2-manifolds), Regular surface, change of coordinates, Tangent plane, The first Fundamental form and its applications

Unit-3

- Normal curvature, principal curvatures, The Gauss map, Second Fundamental form, Gaussian curvature, Mean Curvature

Unit-4

- Equivalence of Surfaces, Isometries, Christoffel symbols, Theorema Egregium, Gauss Equations, Mainardi-Codazzi Equations, Fundamental Theorem for Regular Surfaces (C. 1827)

Unit-5

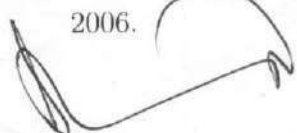
- Geodesics: geodesic curvature, geodesic, Clairaut's Relation, exponential map, Hopf-Rinow Theorem, The Gauss-Bonnet Theorem.

Recommended Text

1. John McCleary, Geometry from a Differentiable viewpoint, Second edition, Cambridge University Press, 2012.

References

1. A. Pressley, Elementary Differential Geometry, Springer, Indian Reprint, 2004
2. Manfredo P. do Carmo, Differential Geometry of Curves and Surfaces, Prentice Hall, 1976.
3. D. J. Struik, Lectures on Differential Geometry, Dover, 1988.
4. Barrett O'Neill, Elementary Differential Geometry, Second edition, Academic Press(Elsevier), 2006.



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Advanced Measure Theory

UNIT-1

Topological Preliminaries: Urhysen's Lemma (Statement Only), Finite Partation of Unity, Definition of $C_c(X)$, Linear Functional on $C_c(X)$, Reisz Representation Theorem (Statement Only), Borel Measure, Definition and examples, Regularity and other properties of Borel Measures, Lusin's Theorem.

UNIT-2

L^p -spaces: Convex functions and inequalities, Jensen's inequality, Definition of L^p -spaces, Holder's inequality, Minkowski's inequality, Completeness of L^p -spaces. Simple functions, Denseness of $C_c(X)$ in L^p -spaces.

UNIT-3

Complex Measures: Definition and examples, Total variation of complex measures, Absolute countinty and Mutually singular. A theorem of Raydon and Nikodym, Hahn decomposition theorem.

UNIT-4

Differentiation of measure: Derivative of measure. Weak L^1 function, Lebeasgue points, Nicely shrinking sets and their properties. Fundamental theorem of calculus.

UNIT-5

Measurability of Product spaces: The functions f_x and f_y . The class Ω of sets in $s \times \tau$ and its properties. Definition of product measure. Fubini theorem, Examples of Fubini's theorem, Convolution of functions, Convolution theorem.

Books:

1. Rudin, Walter, Real & Complex analysis, McGraw-Hill, 2000
2. J.Yeh. Real analysis: theory of Maesure and Integration 3rd Edition, World Scientific, 2000.



Kanishk Kumar



Asha

Course Title: Finite Fields & Coding theory Course Code PGMAT3E006T

Duration of Examination: 3 hours

Maximum-Marks: 100

Unit-1

- Field Extensions: Field, Prime Field, Algebraic extension, simple extension, minimal polynomial of an algebraic element, Finite extension, Transitivity of Finite extensions, Simple algebraic extension, Splitting field,
- Characterization of finite Fields: Finite fields, Number of elements in a finite field, Existence and uniqueness of finite fields, Subfields of a finite field

Unit-2

- Roots of an irreducible polynomials over finite fields: Nature of roots, Relation between splitting fields of two irreducible polynomials of same degree, Automorphisms of a finite field
- Trace: Definition and its basic properties, Relation between trace and linear transformations, Transitivity of Trace, Norm: Definition and its basic properties, Transitivity of Norm, Bases: Dual bases, normal basis, Artin lemma, Normal Basis Theorem,

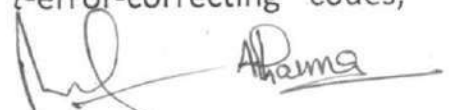
Unit-3

- Roots of unity and Cyclotomic polynomials: Cyclotomic field, Primitive n th root of unity, Cyclotomic polynomial, Cyclotomic field as simple algebraic extension, Finite fields as Cyclotomic fields
- Representation of elements of finite fields: Some different ways of writing the elements of a finite field
- Irreducible Polynomials: Moebius function μ , Moebius Inversion formula, Number of monic irreducible polynomials of a given degree over a finite field, Product of all monic irreducible polynomials of a given degree over a finite field

Unit-4

- Linear Codes: Definition of Code, Coding scheme and Decoding scheme, Linear Codes, Hamming distance and weight, t -error-correcting codes,

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Decoding of linear codes, Hamming Bound, Plotkin Bound, Gilbert-Varshamov Bound, Dual code

Unit-5

- Cyclic Codes: Definition, Characterization of cyclic code in terms of an ideal, Generator polynomial of cyclic code, Parity-check polynomial of cyclic code, Relation between code polynomial and the roots of generator polynomial, BCH code, Minimum distance of BCH codes, Decoding algorithm for BCH codes

Textbooks:

1. R Lidl and H Niederreiter, Introduction to finite fields and Applications, Revised Edition, Cambridge University Press, 1992.

Reference books:

1. R Hill, A first course in Coding theory, Oxford Appl. Math and Comp. Sci. Series., Clarendon Press, Oxford, 1986.
2. R Lidl and H Niederreiter, Finite fields, Revised Edition, Cambridge University Press, 1997.
3. Gary L. Mullen and C. Mummert, Finite fields and Applications, American Mathematical Society, Indian Edition 2012.



Kamlesh Kumar



Asha



Name of the course: Probability and Statistics

Course Credits: 4

Course Code: PGMAT3F006T

Unit-1

Review of probability theory including conditional probability, Some important theorems on probability, Exercise on probability and conditional probability, Independent Events, Total probability theorem and Bayes' Theorem, Addition and multiplication theorems of probability

Unit-2

Random Variables and Distribution function: discrete and continuous, Exercise on distribution functions, Two dimensional random variables: joint distribution function and marginal distribution, Expectation and moments about mean and origin, Covariance and conditional expectation and examples, Moment inequalities- Tchebyshef, Markov, Jensen, Moment generating function and characteristic function with their properties.

Unit-3

Standard discrete probability distributions: Discrete uniform distribution, Bernoulli distribution, Binomial distribution, Poisson distribution, Geometric distribution, Negative binomial distribution with their properties and examples. Some important theorems based on these distributions.

Unit-4

Standard continuous probability distributions: Continuous uniform distribution, Normal distribution, Exponential distribution, Gamma distribution or Erlang distribution, Weibull distribution, Triangular distribution, Standard Laplace (Double exponential) distribution, Cauchy distribution, with their properties and examples. Some important theorems based on these distributions.

Unit-5

More on two dimensional random variables: probability and distributions and examples, Transformation of random variables with examples, Central limit theorem and its applications, Large sample theory: types, parameter and statistics, test of significance.

Reference books:

1. S. C. Gupta and V. K. Kapoor: Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi.
2. S. Palaniammal, "Probability and Queueing Theory", PHI Learning Private Limited, Delhi.



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Course code: PGMAT4C004T

Course title: Discrete Mathematics

Course Credits: 4

Unit-1

- Set, Relation, Well-ordering principle, Poset, Lattices, trees, Boolean Algebra, Boolean functions, disjunctive and conjunctive normal form, Representation theorem for Boolean Algebra, Representation of relations as digraphs and Boolean matrices.

Unit-2

- Combinations, Counting Principles, Binomial Coefficients, Set-partitions and Stirling number of first and second kinds, Number partitions, Ferrers diagram

Unit-3

- Inclusion-Exclusion Principle and its Applications
- Generating function, Solving Recurrence relations, Convolution, Exponential generating function, Dirichlet generating function.

Unit-4

- Graph Theory: Graphs, subgraphs, Isomorphism of graphs, Adjacency and Incidence matrices; Trees, Forests, Counting labeled trees, Spanning subgraphs, Kruskal's algorithm
- Matching theory, Hall's Marriage Theorem

Unit-5

- Planar graphs, Euler's formula, Five colour theorem, Chromatic polynomial of a graph, Edge colourings, Hamiltonian Cycles, Ramsey Theory, Diameter and eigenvalues of a graphs.

Recommended Texts.

1. Richard A. Brualdi, Introductory Combinatorics, 5th edition, Pearson Education.
2. Ralph P. Grimaldi, Discrete and Combinatorial Mathematics: An Applied Introduction, 5th edition, Pearson Education, 2003.
3. Sebastian M. Cioaba and M. Ram Murty, A first Course in Graph Theory and Combinatorics (Texts and Readings in Mathematics), Hindustan Book Agency, 2009.
4. C L Liu and D P Mohapatra, Elements of Discrete Mathematics, McGraw Hill, 1985.

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Semester-4

Course Title: Introduction to Cryptography

Course Code: ..PGMAT4.C005T

Duration of Examination: 3 hours

Credits: 04

Maximum Marks: 100

Prerequisite: Some basic knowledge of Number Theory, Set Theory and Lattice Theory will help to understand the course.

Unit-1

Introduction to cryptography: Private and Public key Cryptosystems, Classical Cryptography, Simple Substitution Ciphers, Cryptanalysis of Simple Substitution Ciphers, Cryptography before the Computer Age, Symmetric and Asymmetric Ciphers, An Encoding Scheme and an Encryption Scheme, Symmetric Encryption of Encoded blocks, Examples of Symmetric Ciphers, Random bit sequence and symmetric ciphers.

Unit-2

Introduction to asymmetric ciphers, Origin of Public Key Cryptography, The Discrete Logarithm Problem, Diffie-Hellman Key Exchange Algorithm, The ElGamal Public Key Cryptosystem, Hardness of the Discrete Logarithm Problem, Order Notation, A Collision Algorithm for Discrete Logarithm Problem.

Unit-3



Integer factorization and the RSA cryptosystem: Euler's formula, Roots modulo pq with p & q as distinct primes, The RSA public key cryptosystem, It's implementation and security issues, Primality testing, Miller-Rabin test for composite numbers, The prime number theorem (statement only), Riemann zeta function, Riemann hypothesis, AKS primality test (statement only), Pollard's $p-1$ factorization algorithm.

Unit-4

Legendre's symbol, quadratic reciprocity, Jacobi symbol, Probabilistic encryption and the Goldwasser-Micali cryptosystem. Information theory: Perfect secrecy, Conditions for perfect secrecy, Entropy, Redundancy and the entropy of natural language, The algebra of secrecy systems, Complexity theory and P versus NP .

Unit-5

Digital signatures: Definition, Components of a digital signature scheme, RSA digital signatures, ElGamal digital signatures digital signature algorithm (DSA), GGH lattice based digital signature scheme, NTRU digital signature scheme.

 Kamlesh Kumar 

Textbook: J Hoffstein, J Pipher & J H Silverman, An introduction to mathematical cryptography, Springer (India) Pvt. Ltd., 2011

Reference Books:

1. V V Yaschenko, Cryptography: An introduction, American Mathematical Society, 2009
2. G. H. Hardy and E. M. Wright – An Introduction to Theory of Numbers, Oxford University Press, 2008, 6th Ed.,
3. J Talbot and D Welsh, Complexity and Cryptography: An Introduction, Cambridge University Press, 2006



Kamlesh Kumar

Course Title: Operator Theory
Course Code: PGMAT4C006T
Course Credits: 4

Duration of Examination: 3 hours
Maximum Marks: 100

Unit-1

• Spectral Theory in Finite normed spaces: Definition of eigenvalues, eigenvectors, eigenspaces, spectrum, resolvent set of a matrix, eigen values of an operator, Existence Theorem for eigenvalues, spectral theory for infinite dimensional normed linear spaces, resolvent of an operator, spectrum of a bounded linear operator on a complex Banach space, Representation Theorem, Resolvent equation, commutative properties of resolvent, Spectral Mapping Theorem for Polynomials, definition of local holomorphy, holomorphy of resolvent operator, Spectral radius of a bounded linear operator.

Unit-2

• Definition of normed algebra, Banach Algebra and examples, invertible elements, Banach-Alaoglu theorem (statement only), multiplicative linear functional, definition of spectrum, resolvent set, spectral radius, division algebra, Gelfand Mazur Theorem, Spectral Mapping Theorem.

Unit-3

• Definition of compact linear operator on normed spaces, examples, compactness criterion, uniform limit of a sequence of compact operators, finite rank operator, eigenvalues and eigenspaces for compact operators.

Unit-4

• Unbounded Linear Operators: Hellinger-Toeplitz Theorem, Densely defined operators, Hilbert-Adjoint operators, Inverse of the Hilbert-adjoint operator, Symmetric linear operator, closed linear operator, definition of closable operator, closure, spectrum of self-adjoint linear operator.

Unit-5

• Multiplication operator and Differentiation operator, self-adjoint multiplication operator, spectrum of multiplication operator, definitions of States, Observables, Position operator and Moment operator, Heisenberg Uncertainty Principle.

Textbook:

1. Erwin Kreyszig, Introductory Functional Analysis with Applications, John Wiley & Sons, USA, 1989.

Reference books:

1. Ronald G. Douglas, Banach Algebra Techniques in Operator Theory, Springer-Verlag, New York, 1998.
2. John B. Conway, A course in Functional Analysis, Second Edition, Springer, 1990.
3. Arch W. Naylor and George R. Sell, Linear Operator Theory in Engineering and Sciences, Springer-Verlag, New York, 2000.



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TOPOLOGICAL VECTOR SPACE

UNIT-1

Semi norm, Topological vector space, Convex set, Balanced set, Absorbing set, Minkowski functional (Gauge), Topology in a semi-norm, Linear space, Semi normed linear space, Locally convex space.

UNIT-2

Linear Transformation, Linear functional, Maximal subspace, Linear variety, Hyper plane, Geometric form of Hahn Banach theorem.

UNIT-3

Reflexive Banach space, Canonical embedding, Milman's theorem, Weak Topology, Basic neighbourhoods, Weak*-topology, F-topology, The Banach Alaoglu theorem, Extreme Points, Extremal Subset.

UNIT-4

Krein-Milman theorem, Baire's Category theorem, Closed Graph theorem, Application of Closed Graph theorem, Frechet space, Open Mapping theorem for Frechet space.

UNIT-5

Absolutely convex set, Duality, Linear form, Weak topology, Polar of a set, Bipolar theorem, Barrelled Space, Bornivorous or Bornivorne, Bornological Space.

Books:

1. Larsen, R., *Functional Analysis: an introduction*, M. Dekker 1973.
2. Schaefer, H.H., *Topological Vector Spaces*, Springer 1999.
3. Rudin, walter, *Functional Analysis* (2nd edition), McGraw-Hill, 1991



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Unit-1

- L_p - spaces. Holder's inequality and Minkowski's inequality (statements only), completeness OF L_p -spaces, Approximations by continuous functions. Fourier series, Fourier sine series and Fourier cosine series, Smoothness, the Riemann-Lebesgue Lemma, the Dirichlet and the Fourier Kernels, Area under Dirichlet Kernel on $[0, \pi]$, the Riemann- Lebesgue property of the Dirichlet Kernel , Continuous and Discrete Fourier Kernel.

Unit-2

- Pointwise convergence of Fourier Series, criterion for pointwise convergence, Dini's test Lipschitz's test, Selector property of $[\sin(n + \frac{1}{2}u)/u]$, Dirichlet point-wise convergence theorem, the Gregory series, Selector property of $(\sin w)/t$, point-wise convergence for B V, uniformly convergent trigonometric series and Fourier series, Absolutely convergent coefficients, Uniform convergence for piecewise smooth functions.

Unit-3

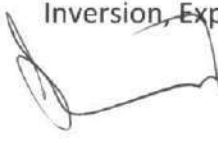


- The Gibb's phenomenon, the Gibb's phenomenon for a step function, Divergent Fourier series, Term-wise integration and term-wise differentiation, Trigonometric vs. Fourier series , Smoothness and speed of convergence, Dido's Lemma, other kinds of summability, Toeplitz summability, Toeplitz summability , abel summability.

Unit-4

- Fejer Kernel, Properties of Fejer Kernel, Fejer's Theorem, Lebesgue pointwise Convergence Theorem. The finite Fourier Transform, convolution on the circle group T .

Unit-5

- The exponential form of Lebesgue theorem, Lebesgue's pointwise convergence Theorem -II, the Fourier transform and residue , the Fourier map, Convolution on R , Inversion, Exponential form and Trigonometric form.

 Kamlesh Kumar Sharma  

Textbooks:

1. George Bachman, Lawrence Narici and Edward Beckenstein Fourier and Wavelet Analysis, Springer – Verlag, New York, 2005.

Reference books:

1. C S Rees, S M Shah, C V Stanojevic: Theory and applications of Fourier Analysis, Marcel Dekkar Inc., New York
2. Rajendra Bhatia, Fourier Series, Hindustan Book Agency, Delhi.
3. N. K. Bary, A Treatise on Trigonometric Series, Pergamon Press., A. Zygmund, Trigonometric Series, Cambridge Press.
4. H P Hsu, H B Jovanovich, Applied Fourier Analysis, New York.
5. K G Beauchamp, Walsh Functions and their applications, Academic Press.
6. E O Brigham, The Fast Fourier Transform, Prentice Hall of India.

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MO

Name of the Course: Stochastic Processes

Course Credits: 4

Course No.: PGMAT4F006T

Unit-I

Stochastic or random processes definitions, applications and examples, continuous and discrete stochastic processes, Stationary and Evolutionary stochastic processes, Distribution and density functions, mean, correlation, covariance and auto-covariance functions, Probability generating function (pgf) method, some elementary exercises.

Unit-II

Markov processes and Markov chain, Homogeneous Markov chain, Transition probability matrix, one step and n -step transition probability, Steady state condition on Markov chain, Classification of Markov chain, Some Markov chain models, Chapman-Kolmogorov theorem, Regular Markov chain, Irreducible Markov chain, Periodicity, Ergodicity.

Unit-III

Poisson Processes, Poisson distribution, Distribution associated with the Poisson Processes, Properties of Poisson processes, The Law of Rare Events and the Poisson Process, Pure Birth Processes, Pure Death Processes, Distribution of inter arrivals and departures, Yule-Furry process, Simple Birth and Death Processes.

Unit-IV

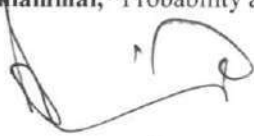
Queueing Processes, Basic Queueing characteristics, Kendall's Notation, Steady state distribution, Poisson arrivals, Exponential service times, Little's formula, $M/M/1: \infty$ queueing model, $M/M/c: \infty$ queueing model, $M/M/1: K$ queueing model and their performance measures, $M/M/c: K$ queueing model, Examples based on these models.

Unit-V

$M/M/1: \infty$ queueing model with state dependent service rates, Finite population $M/M/c/K/K$ queueing model, Transient behavior of $M/M/1/1$ model, Non-Markovian queueing models as $M/G/1$ and various performance measures, Queue Networks, Series queues with blocking and their performance measures,

Reference Books:

1. Howard M. Taylor and Samuel Karlin, "An Introduction to Stochastic Modeling", Third Edition, Academic Press, London.
2. B. R. Bhat, "Stochastic Models: Analysis and Applications", First Edition, (Reprinted on Jan, 2000), ISBN No.: 978-81-224-1228-4, New Age International, Delhi.
3. J. Medhi, "Stochastic Processes", Third Edition, New Age International, Delhi.
4. S. Palaniammal, "Probability and Queueing Theory", PHI Learning Private Limited, Delhi.



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01/05/2019

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01-05-2019

APD





जम्मू केंद्रीय विश्वविद्यालय

Annexure - III

Central University of Jammu

राया-सूचानी ; बागला, जिला सांबा-181143 जम्मू ; जम्मू एवं कश्मीर

Rahya- Suchani (Bagla), District Samba-181143, Jammu (J&K)

No. CUJ/Acod/11-14/14/2020/11

13 January, 2020

NOTIFICATION No. 03/2020

Sub: Course Scheme and Syllabus of 1st to 4th Semesters of M.A. in Economics w.e.f. Academic Session 2019 - 20 - Reg.

Ref: Notification No. 71 of 2018 dated 05.11.2018

It is hereby notified for the information of all concerned that on the recommendation of the Board of Studies of Department of Economics and Dean, School of Humanities and Social Sciences, the Vice Chancellor in anticipation of Academic Council has approved the following **Course Scheme and Syllabus** of 1st to 4th semesters of **M.A. in Economics** w.e.f. Academic Session 2019 - 20.

Semester 1st

Course Code	Course Title	Credit	CIA	MSE	ESE	Max Marks
Core Courses						
PGECO1C001T	Microeconomic Theory	4	25	25	50	100
PGECO1C002T	Mathematics for Economics	4	25	25	50	100
PGECO1C004T	Macroeconomic Theory	4	25	25	50	100
Elective Course (Any One)						
PGECO1E005T	Economic History of India	4	25	25	50	100
PGECO1E006T	Agricultural Economics					
PGECO1E007T	Economics of Rural Development					
Foundation Course						
PGECO1F007T	Classical Political Economy	4	25	25	50	100
Total		20	-	-	-	500

Semester 2nd

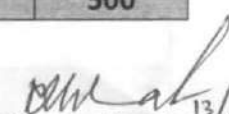
Course Code	Course Title	Credit	CIA	MSE	ESE	Max Marks
Core Courses						
PGECO2C001T	Microeconomic Theory and its Applications	4	25	25	50	100
PGECO2C005T	Public Economics	4	25	25	50	100
PGECO2C006T	Development Issues and Indian Economy	4	25	25	50	100
Elective Course (Any One)						
PGECO2E005T	Financial Institution and Markets	4	25	25	50	100
PGECO2E007T	Industrial Economics					
PGECO2E008T	Labour Economics					
Foundation Course						
PGECO2F007T	Statistical Methods	4	25	25	50	100
Total		20	-	-	-	500

Semester 3rd

Course Code	Course Title	Credit	CIA	MSE	ESE	Max Marks
Core Courses						
PGECO3C005T	Econometrics	4	25	25	50	100
PGECO3C006T	Research Methodology and Computer Applications in Economics	4	25	25	50	100
PGECO3C007T	International Trade Theory and Policy	4	25	25	50	100
Elective Course (Any One)						
PGECO3E008T	Human Development	4	25	25	50	100
PGECO3E009T	Economics of Education					
PGECO3E010T	Environmental Economics					
PGECO3E011T	Economics of Population					
PGECO3E012T	Co-operative Development					
Interdisciplinary Course						
PGECO3I010T	Indian Economy: Some Contemporary Issues	4	25	25	50	100
Total		20	-	-	-	500

Semester 4th

Course Code	Course Title	Credit	CIA	MSE	ESE	Max Marks
Core Courses						
PGECO4C003T	Theory of Cycles and Growth	4	25	25	50	100
PGECO4C005T	Indian Economic Policy	4	25	25	50	100
PGECO4C006T	Issues in International Finance	4	25	25	50	100
Elective Course (Any One)						
PGECO4E003T	Health Economics	4	25	25	50	100
PGECO4E009T	Mathematical Economics					
PGECO4E010T	Natural Resource Economics					
PGECO4E011T	Gender Economics					
PGECO4E012T	Time Series Econometrics					
PGECO4E013T	Game Theory					
PGECO4E001D	Dissertation					
Interdisciplinary Course						
PGECO4I011T	Money, Banking and Finance	4	25	25	50	100
Total		20	-	-	-	500


 Deputy Registrar ^{13/01/2020}
 (Admin - HR)

Encl: Syllabus of 1st to 4th Semesters

To: Head, Department of Economics

Copy to: OSD (Exam)

Unit-V: Labour Mobility and Labour Unions

Labour Mobility: Types, Migration as an investment in human capital, Determinants of Migration, Consequences of Migration

Labour Union: Determinants of Union Membership, Economic Impact of Unions, Monopoly Unions, Efficient Bargaining, Strikes, Union Wage Effects, Non wage Effects of Unions.

Reading List:

1. Borjas, G. (1996): Labour Economics, New York: Mc-Graw-Hill Companies
2. George, J.B. (1996): Labour Economics, New York: Mc-Graw-Hill Companies
3. Seth, V K and S C Aggarwal (2004): The Economics of Labour Markets: Policy Regime Changes and The Process of Labour Adjustment in the Organised Industry in India. New Delhi: Anne Books.
4. M P Todaro (1969): A Model of Labour Migration and Urban Unemployment in Less Developed Countries. American Economic Review.
5. Sen, A.K. (1975): Employment, Technology and Development. Oxford University Press, New Delhi.
6. Jacob Mincer (1966): Labour Force Participation and Unemployment: A review of Recent Evidence, in R A Gordon and M S Gordon (eds.), Prosperity and Unemployment.

International Trade Theory and Policy

Objective: The objective of the course is not only to provide the theoretical understanding of discipline of international trade theory but also make them familiar with major economic policies governing international Trade.

Unit – I Pure Theory of International Trade

Basis for International Trade-Absolute Advantage, Comparative Advantage and Opportunity Cost Theory, Reciprocal Demand Theory of Trade, Factor Endowment and International Trade; Hecksher-Ohlin Theory and its Empirical Tests, Factor Endowment and Factor Prices; Factor Price Equalization Theorem, Stolper-Samuelson Theorem.

Unit –II New Theories of International Trade

Economies of Scale, Imperfect Competition -Trade based on Product Differentiation and Intra-Industry Trade, Dynamic Technological Differences-Product Cycle Model. Economic Growth and International Trade: Growth of Factors of Production- Rybczynski Theorem, Technical progress; Growth and Trade-Small Country and Large Country.

Unit –III Trade Interventions

The Political Economy of Protectionism, Partial and General Equilibrium of Tariff in a Small Country and in a Large Country; The Optimum Tariff; Non- Tariff Trade Barriers and the New Protectionism; Effective and Optimum rates of Tariffs – their measurement, impact and welfare implications; The Quotas; Economic Effects of Tariffs and Quotas on various Macroeconomic variables, Arguments for Protection; Infant Industry Argument

Unit- IV Growth and Trade

Sources of Economic Growth, Trade as engine of growth; static & dynamic gains from trade; Measurement of gains from trade and their distribution; Economic Growth and International Trade; Labour Growth and Capital Accumulation over time. The East Asian Miracle and Export Led Growth. Terms of trade and economic growth-secular deterioration of terms of trade hypothesis; Prebisch, Singer and Myrdal hypothesis. Theory of Immiserizing Growth.

Unit-V Theory of Economic Integration

Economic Integration: Custom Union and Free Trade Areas; Static and Dynamic benefits from custom union; Regional Groupings and Globalization ---- European Union, NAFTA, ASEAN, BRICS and SAARC.

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International Trade Theory and Policy

Suggested Readings

Soderston, Bo. (1979). International Economics, The Mcmillan Press Ltd. London.

Salvatore, D. (2015). International Economics Prentice Hall, Upper Saddle, NJJ, New York.

Krugman, P.R. and M. Obstfeld. (2013). International Economics, Theory and Policy, Glenview, Foresman

Chacholiades, Miltiades. (2012). International Economics 1st Edition; Tata McGraw Hill Education (India) Private Limited

Caves, E.R, Frankel, A.J & Jones. R.W (2007). World Trade and Payments: An Introduction, 10th edition. Pearson

Other Suggested Readings

Soderston, Bo, Geoffrey Reed. (1999). International Economics. The Memillan Press Ltd. London

Barro J. R. & J.W. Lee. (2011). Costs and Benefits of Economic Integration in Asia, Oxford University Press.

Bhagwati, J. (Ed.). (1981). International Trade: Selected Readings, Cambridge University Press, Massachusetts.

Borkakoti, J. (1998). International Trade- Causes and Consequences; First Edition; Palgrave Macmillan

Lowenfeld, A. F. (2008). International Economic Law; Second Edition; Oxford Publications.

Greenway, D. (1983). International Trade Policy: from Tariff to the New Protectionism, Macmillan Publishers Ltd., London.

Godstein, M. (1998). The Asian Financial Crisis: Causes and Systematic Implication, Institute for International Economics, Washington, D.C.

Pugel A Thomas. (2007). International Economics 13th edition; Tata McGraw Hill education pvt.Ltd.

Economics of Population

Objective: The course will examine the theoretical background and economic determinants of population change along with the empirical evidence for the demographic transition, the transition from high-mortality and fertility to low-mortality and fertility.

Unit 1: Introduction to Population Economics

Meaning & scope of demography; Components of population growth and their inter-dependence; measures of population change; structure, distribution and sources of demographic data. Economics of Population dynamics - Fertility, Mortality and Migration.

Unit II: Theories of the Demographic Transition

Malthus and Classicals. Economic thinkers of population theory. Quantitative theories, biological theories, social theories, optimum theory of population, and A model of low equilibrium trap, Demographic transition: cross country evidences.

Unit III: Population and Development

Relationship between population growth and economic development. Structure of population during development process. Cost and benefits of population growth. Macroeconomic effects of rapid population growth. Population growth and agriculture in the traditional framework and new technology. Population growth and patterns of industrial development.

Unit IV: Population and Migration

Migration – meaning types and causes, Theories of migration. Types of internal and external migration and factors influencing migration. Trends in internal migration in developed and developing countries. Economic- social and demographic consequences of migration. Population growth and the international migration.

Unit – V: Population Policy in India

Evolution of population policy in India. - The shift in policy from population control to family welfare, Family planning strategies and their outcomes; Reproductive health, maternal nutrition and child health policies; Population policy in 1980s and 1990s and new population policy; Population Projections; Demographic dividend.

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Reading List

- Agarwala, S.N. India's population problem, Tata McGraw Hill, Bombay.
- Bogue, D.J. (1969). Principles of Demography, John Wiley and Sons Inc. New York.
- Boserup E. (1990). Economic and Demographical Relationships in Development, Baltimore, The John Hopkins University Press.
- Choubey, J.L Population policy in India, Kanishka Publications, New Delhi.
- Davis Kingsley. (1963). Population Policy: Will Current Programs Succeed? Science 158 (3802): pp. 730-739.
- Dreze J. and Sen, A. (Ed.). (1990). The Political Economy of Hunger - III Volumes. (Oxford: Clarendon Press).
- Mahadevan K. Population Policies in South Asian Countries, Sage Publishers, New Delhi.
- Mishra, S. Voluntary Action in Health and Population. Sage, New Delhi.
- Novell, C. Methods and Models in Demography, Bellhaven Press, London.
- Simon, J. L.. Population & Development in poor countries, Princeton University Press.
- Simon, J. L. (1977). The Economics of Population Growth (Princeton: Princeton University Press).
- Simon, J.L. (1986). Theory of Population and Economic Development. (New York, Basil Blackwell).
- Srinivasan, K. Basic Demographic Techniques and Application, Sage, New Delhi.
- United Nations. (1973). The Determinants and Consequences of Population Trends (New York: Dept of Economic and Social Affairs).
- United Nations. (1982). Population of India (Country Monograph Series, No.10 (ST/ESCA/220)).
- Zacharia K.C. (1964). A Historical Study of Internal Migration in the Indian Sub-continent – 1901 – 31, Asia Publishing House.

Co-operative Development

Objective: To give knowledge to the students about the importance and relevance of Co-operatives in the present economic environment. Co-operatives can play a very big role in bringing in more development and prosperity. Thus, this course will also help the students to upgrade their skills and abilities to use appropriate techniques for developing cooperatives. This will develop an understanding and insight in co-operative development in India.

Unit-I

Socio-Economic Aspects: Evolution, Concept and Philosophy of co-operation; Principles of co-operation; Application of values in the working of co-operatives; History of co-operative movement in India; Recommendations of important committees on co-operation: Maclagan committee, cooperative planning committee, All India Rural Credit Survey Committee, Mirdha committee, Khusro committee, Vaidyanathan Committee

Unit-II

Co-operative Institutions: National Co-operative Development Cooperation (NCDC); National Bank for Agriculture and Rural Development (NABARD); Rashtriya Mahila Kosh; Small Farmers' Agriculture Consortium; APEDA; Successful Case Studies of Co-operatives in India – AMUL, IFFCO, Mother Dairy

Unit-III

Legal Aspects: Evolution of co-operative legislation in India; Indian Co-operative Societies Act; Multistate co-operatives Act, 2002; Constitutional Amendments, 2011 in Co-operative Act; Organisation of co-operative society; formulation of by laws, proposals for registration, Membership: types, eligibility and admission rights.

Unit-IV

Co-operative Institutions: Need and importance in India; Problems & Strategies; Organisational Structure for Co-operative education: National Co-operative Union of India (NCUI), State Co-operative Unions, District Co-operative Unions; Co-operative Training Institutions in India: National Centre for Co-operative Education (NCCE), National Council for Co-operative Training (NCCT).

International Agencies and Co-operative Movement: International Co-operative Alliance; International Labour Organisation; Food and Agriculture Organisation; Role of international organisations in co-operative education and development.

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Unit-V

Co-operative Management: Principles and functions of Management as applicable to co-operatives; Financial Management in Co-operatives: Funds Management, Budgetary control, Accounting records, financial statements; Marketing Management in Co-operatives: Marketing Mix, Distribution channels in the co-operative sector, Sales promotion techniques, Marketing Strategies

References:

NCUI: *Indian Co-operative Movement: A Statistical Profile*. 15th Edition, 2018

Indian Institute of Banking and Finance: *Co-operative Banking*. 2018

Kimberly A Zeuli and Robert Cropp: *Co-operatives: Principles and Practices in the 21st Century*. Co-opertaive Extension Publishing, 2004

Ian Mac Pherson, *Cooperative Principles for the 21st Century*, ICA, Geneva 1995.

Mascarenhas, Reginald C, *A strategy for rural development: Dairy cooperatives in India*. No. 334.68370954 MAS. CIMMYT.. 1988.

Attwood and Baviskar, *Co-operatives and Rural Development* Oxford, 1990.

R. Rajagopalan, *Rediscovering Co-operation*. Vol.I, II and III, IRMA, 1996

ICA, *Readings in Cooperative Management*, New Delhi, 1977.

Economics of Rural Development

Objective: *The course aims to acquaint the students with the basic concepts and theory of rural development. The course also tries to explore the rationale and scope for rural development especially in India.*

Unit-I: Introduction to Rural Development

Growth versus Development, Why Rural Development, Approaches to understand rural development: Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA), Sustainable Rural Development, Human Beings as the Cause and Consequence of Development, Some Dilemmas of Development.

Unit-II: Rural Economy

Rural Economy of India: Introduction; Size and structure; Characteristics, Role of the Agricultural and the Non Agricultural Sector in the Rural Economy, Employment and Income diversification in Rural Economy, Measures of level of Rural Development, Measures of Income distribution.

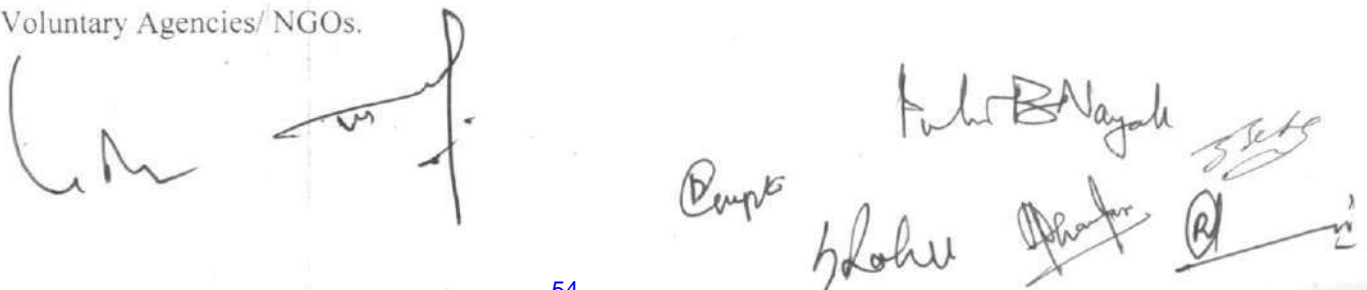
Unit-III: Some Paradigms of Rural Development

The Modernisation Theory, Rosenstein-Rodan's Theory of the Big Push, Leibenstein's Critical Minimum Effort Thesis, Lewis Model of Economic Development, Gunnar Myrdal's Thesis of Spread and Backwash Effects, The Human Capital Model of Development, The Gandhian Model of Rural Development.

Unit-IV: Planning and Organising for Rural Development

Planning for Rural Development: Levels and Functions of Planning, Centralisation vs Decentralisation of Planning, Methodology of Micro-level Planning, Block-and District Level Planning.

Organizations for Rural Development: Criteria for Designing an Appropriate Organisation, Government Organisations Local Government: Panchayati Raj Institutions, Cooperatives, Voluntary Agencies/NGOs.


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Unit-V: Rural Entrepreneurship and Financing Rural Development

Rural Entrepreneurship: Role, Programmes, Micro-Finance Institutions (MFIs); Role of MFIs, Grameen Bank, Self Help Groups; Micro, Small and Medium Enterprises in Rural India.

Financing Rural Development: Sources of Rural Financing: Domestic vs Foreign Sources, Deficit Financing.

Suggested Readings:

1. Narula, U. (2010): Dynamics of Indian Rural Economy: Growth Perspective, Atlantic Publishers, New Delhi.
2. Reddy, K.V. (2012): Agriculture and Rural Development. Himalaya Publishing House.
3. Singh, K. (2009): Rural Development: Principles, Policies and Management, Sage Publications.
4. Das, P. (2011): Rural Non-Farm Employment in India. Pattern of Growth and Determinants, Firma KLM Pvt. Ltd.
5. Singh, B.M. and Namboodiri, KVN (2007): Unleashing Rural Entrepreneurship, Icfai University Press, Hyderabad.
6. Singh, Hoshiar(ed.) (1985): Rural Development in India: evaluative Studies in Policies and Programmes. Jaipur: Printwell Publishers.
7. Somjee, Geeta and A.H. Somjee (1989): Reaching Out to the Poor: The Unfinished Rural Revolution. London: Macmillan.
8. Mathur, Ashok (2005): Rural Development: Indices and Linkages in NIRD, India: Rural Development Report- Rural Institutions. 2005, Hyderabad NIRD, Ministry of Rural Developmenty, GOI.
9. Mehta, Shiv R. (1984): Rural development Policies and Programmes. New Delhi: Sage Publications.

Issues in International Finance

Objective: The broad objective of the course is to provide the theoretical understanding of international finance like balance of Payments, foreign exchange market and International Monetary System. The course particularly tries to address the issues and problems of the international Finance.

Unit- I Balance of Payment

The Balance of Payments: Concepts and measurement – Balance of Trade and transfers – Current and Capital accounts – Balance of Payments always balance, Equilibrium and Disequilibrium in the Balance of Payments; Income Approach, Foreign Trade Multiplier – Marshall – Lerner condition – empirical measurement of import and export demand elasticities – elasticity and absorption approaches monetary approach devaluation and the terms of trade,

Unit-II Foreign Exchange Market

The International Money Market: Foreign Exchange Market – Spot and Forward Market – demand and supply of foreign exchange – Purchasing Power Parity Theory – Nominal, Effective, Real and Shadow Exchange Rates. Exchange Rate Determination; Fixed Exchange Rate, Flexible Exchange Rate.

Adjustment Process: Fixed Exchange and Flexible Exchange rates; Expenditure Changing and Exchange Switching Policies; Policy for Achieving simultaneous Internal and External Equilibrium.

UNIT – III International Monetary System

International Monetary Systems: Gold Standard, Operation and Evolution of the Bretton Woods System; Collapse of Bretton Woods system; Operation and Evaluation of the Present Monetary System.

International Monetary Fund (IMF) and World Bank; Functions and Working, IMF and World Bank from the point of view of developing countries and India. World Trade Organization (WTO): functions, Role, WTO and developing countries.

Unit-IV International Capital Flow

The international capital market: nature and characteristics – Eurocurrency markets international financial risk management-international capital movements – oil hikes and recycling of petrodollars – commercial borrowings of developing countries – external debt management – transfer problem.

UNIT- V Issues in International Economics

Washington Consensus and New International Economic Order, International Debt Crisis, Financial crisis in emerging Market Economies, Asian crisis of 1997, Global Financial crisis of 2008, Euro Zone crises.

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Issues in International Finance

Suggested Readings

- Mark, N. (2001), International Macroeconomics and Finance, Blackwell Publishers.
- Levi, Maurice D. (2009), International Finance, 5th Ed., Rutledge.
- Caves, E.R. Frankel, A.J & Jones, R.W (2007). World Trade and Payments: An Introduction, 10th edition, Pearson
- Soderston, Bo. (1979). International Economics, The Mcmillan Press Ltd. London.
- Salvatore, D. (2015). International Economics Prentice Hall, Upper Saddle, NJJ. New York.
- Krugman, P.R. and M. Obstfeld. (2013). International Economics, Theory and Policy, Glenview, Foresman
- Chacholiades, Miltiades. (2012). International Economics 1st Edition: Tata McGraw Hill Education (India) Private Limited

Other Suggested Readings

- Choel, S. Eun and Bruce, Risnick (2001), International Financial Management, Tata Mc Graw Hill.
- Godstein, M. (1998). The Asian Financial Crisis: Causes and Systematic Implication, Institute for International Economics, Washington, D.C.
- Kenen, P.B. (1995). Economic and Monetary Union in Europe, Cambridge University Press.
- Levich, Richard M. (2001), International Financial Markets Prices and Policies, 2nd Ed., McGraw-Hill Irwin
- Lowenfeld Andreas F.(2008) International Economic Law; Second Edition; Oxford Publications.
- Madura, Jeff (2006), International Financial Management, 6th Ed., Thomson Publications
- Pugel A Thomas. (2007). International Economics 13th edition: Tata McGraw Hill education pvt.Ltd.
- Shapiro, Alan C. (2006) Multinational Financial Management, 8/e. Wiley & Sons.
- Soderston, Bo, Geoffrey Reed. (1999). International Economics, The Mcmillan Press Ltd. London

Course Title: Gender Economics

Objective: To give a systematic knowledge to the students as how the gender factor can impact an economic and social development. This course will familiarize the students with the key theoretical concepts, approaches, inequality and gender differences related to the women.

Unit -I**Concept, Theoretical Approaches and Women's Work**

Concept of gender economics; Gender issues in economic theory; Concept of women's work; Valuation of productive and non-productive work; visible and invisible work; paid and unpaid work; economically productive and socially productive work. Invisibility of women's work; Factors affecting female entry in Labour market; Approaches: Women in development (WID); Women and development (WAD), Gender and development (GAD); Neoliberal approaches.

Unit: II**Gender and Development**

Conceptualizing and measuring women's contribution to national income and growth; Gender Inequality in human development; Gender related development indices: Measuring gender empowerment; Gender dimensions of International trade. Female work-participation rate and their Economic status in developing countries; Impact of technological development and modernization on women's work participation in various sectors.

Unit: III**Social Security of Women**

Social security of women: Entitlements ensuring economic independence and risk coverage, access to credit and insurance markets. Role of voluntary organizations and self-help groups in providing social security. Schemes for safety net for women. Factors affecting decision making by women: Female Labour Unions

UNIT: IV**Gender Development Policy in India**

Mainstreaming gender into development policies. Gender sensitive governance; Paradigm shifts from women's well being to women's empowerment. Gender Budgeting in India; Democratic decentralization (panchayats) and women's empowerment in India, National Commission of Women, Committee on the Elimination of Discrimination Against Women (CEDAW). National policy for the empowerment of women (2001).

Unit: V**Gender Issues in India**

- i) Employment and Livelihood Issues;
- ii) Gender Differences in Education and Health
- iii) Falling Child Sex Ratio.
- iv) Discrimination in household distribution of food and other amenities.
- v) Women and Household Decision Making;

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Basic Reading List

- Eswaran, M. (2014), *Why Gender Matters in Economics*, Princeton University Press
- Hopper, Paul. (2012): *Understanding Development* :Polity Press.
- Mazumdar, I. and N. Neetha (2011), 'Gender dimensions: employment trends in India 1993-94 to 2009-10', *Economic and Political Weekly*, 46(43), pp.118-126.
- Pal,Bharti,Bholanath.Vasuler (2011): *Gender and Discrimination(Health,Nutritional Status and Role of women in India*, Oxford University Press.
- Agarwal, Bima (2010): *Gender and Green Governance: "The Political Economy of women's presence within and Beyond Community Forestry*, Oxford University Press.
- Mohanty, (2007): *Women and Political empowermentFunctions*, Institute of Social Sciences.
- Jacobsen, J. (2007), *The Economics of Gender*, Wiley-Blackwell.
- Biswal, Tapan(2006): *Human rights, Gender and Environment*, Viva Books Pvt Ltd.
- Agarwal, Bina , Humphries, Jane and Robeyns, Ingrid (2005): *Amartya Sen's Work and Ideas: A Gender Perspective*, Routledge, New Delhi
- Menon, Nivedita (1999): *Themes in Politics: Gender and Politics in India*. Oxford University Press.
- Devasia Leelamma (1994) *Empowering Women for Sustainable Development*, Ashish Publishing House, New Delhi.
- Bosarup Ester, (1970) *Women's Role in Economic Development*, George Allen and Unwin, London.

Time Series Econometrics

Course Objectives: Time series data are commonly encountered in many empirical finance and macroeconomic settings as well as in a number of other social sciences that use observations recorded over time. The course covers methods relating to both univariate and multivariate models. The student is expected to be thorough with calculus, difference equations, matrix algebra, statistics and basic econometrics. The objective of this course is to provide students with a solid understanding of some fundamental concepts in time series econometrics and to outline a few common difficulties that arise when dealing with time series data in theory as well as in practice.

Unit I

Stationary Univariate Models: Characteristics of time series, Properties of AR, MA, ARMA, ARIMA processes, Stationary stochastic process- Random walk and white noise, Trend Stationary and Difference Stationary process, ARIMA models and Box-Jenkins methodology, Model Selection, Forecasting methodology.

Unit-II

Nonstationary Univariate Models: Trend/Cycle decomposition, Beveridge-Nelson decomposition, Deterministic and stochastic trend models, Removing the trend, Unit root tests, Stationarity tests.

Unit III

Structural Change and Nonlinear Models: Tests for structural change with unknown change point, Estimation of linear models with structural change, Regime switching models; Linear time series model and its limitations, testing for nonlinear models; types of non-linear time series models: the ARCH, GARCH, JGR, EGARCH model- Estimation, testing and Forecasting.

Unit IV

Stationary Multivariate Models: Dynamic simultaneous equations models, Vector autoregression (VAR) models, Granger causality, Impulse response functions, Variance decompositions, Structural VAR models.

Unit V

Nonstationary Multivariate Models: Spurious regression, Cointegration, Granger representation theorem, Vector error correction models (VECMs), Structural VAR models with cointegration, Testing for cointegration, Estimating the cointegrating rank, Estimating cointegrating vectors.

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Reading Lists

1. Bhaskara Rao, B. (ed.), *Co-integration for the Applied Economist*, The Macmillan Press, London, 1994.
2. Enders, W., *Applied Econometric Time Series*, John Wiley & Sons, New York, 2015.
3. Engle, R.F. and C.W.J. Granger (eds.), *Long-run Economic Relationships: Readings in Co-integration*, Oxford University Press, New York, 1991.
4. Gourieroux, G. and A. Montfort, *Time Series and Dynamic Models*, Cambridge University Press, 1997.
5. Hamilton, J.D., *Time Series Analysis*, Princeton University Press, 1994.
6. Mills, T.C., *Time Series Techniques for Economists*, Cambridge University Press, 1990.
7. Mills, T.C., *Time Series Econometrics: A Concise Introduction*, Palgrave Macmillan, 2015.
8. Wei, W.W.S., *Time Series Analysis: Univariate and Multivariate Methods*, Addison-Wesley Publishing Company, New York, 1990.
9. Special Issue on Time Series Econometrics, *Journal of Econometrics*, Vol. 100, Issue 1, January 2001

Game Theory

Course Description and Objectives: Game theory is the study of decision making in situations where the choices of different individuals interact. The course will teach the analysis of strategic decision making. Strategic games are appropriate models in many economic situations, such as price competition, product design, firm entry into a new market.

UNIT I: Introduction to Game Theory

What is Game theory? Theory of rational choice, Interacting decision makers. Two-player games; Some examples of static games; Strategies; Common Knowledge and Rationality; Dominant Strategies.

UNIT II: Static Games of Complete Information

Normal form game and Nash equilibrium; Mixed strategy Nash equilibrium, Best response functions. Dominated actions, Games of Conflict and Cooperation; Applications of Nash Equilibrium e.g. Cournot and Bertrand models of duopoly.

Unit III: Dynamic Games of Complete Information

Dynamic Games; Game Trees; Solving dynamic games; Common Knowledge and Strategic Reasoning; Backward induction; Sub-game perfection; Reciprocity, cooperation, and punishment in repeated interactions; Tit-for-tat; Applications e.g. cartel formation.

Unit IV: Static Games of Incomplete Information

Static Bayesian Games and Bayesian Nash equilibrium: Eg: Cournot Competition under Asymmetric information, Some Applications, Auctions and Double Action, The Revelation Principle.

Unit V: Dynamic Games of Incomplete Information

Introduction to Perfect Bayesian Equilibrium, Signaling Games, Job Market Signaling, Some Applications, Cheap-Talk Games, Sequential Bargaining under Asymmetric Information, Reputation in the Finitely Repeated Prisoner Dilemma

Reading List:

1. Dixit and Skeath(2014): Games of Strategy, W.W. Norton & Company
2. Osborne, M.J(2004) "An Introduction to Game Theory", Oxford University Press
2. Dixit and Nalebuff(1993) : "Thinking Strategically" W.W. Norton and Co
3. Gibbons,R(1992) : A Primer in Game Theory, Pearson Education
4. Mas-Colell, A. Whinston and Green(1995): Advanced Microeconomic theory, Oxford university press.
5. Neumann J V(1992): Theory of Games and Economic Behavior, Princeton University Press.

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Course Code: PGEC01E006T

Course Title: Agricultural Economics

Objective: To acquaint the learner with introductory Agricultural Economics and the issues in Indian Agriculture. This course will provide an orientation to the students regarding agricultural policies and its effect on sustainable agricultural development.

UNIT - I

Agriculture and Economic Development

Agricultural Economics: Nature, Scope and Subject matter, Nature and Utility of Agricultural Economics; Role of Agriculture in Economic Development: Theories, Findings and Challenges in Asian Context; Transforming traditional agriculture- The Schulzian Thesis; Mellor's theory of Agricultural Development; Boserup's theory of Agricultural Development; Applications of Production Function in Agriculture; Economic Development and Declining Importance of Agriculture.

UNIT - II

Inter Sectoral Issues

Terms of Trade between Agriculture and Industry; Lewis' Model of Economic Development; Jorgenson's Model: The Development of Dual Economy; Ranis-Fei Model; Technology in agricultural production, nature and effects and measurement - Measuring efficiency in agricultural production; Technical, Allocative and Economic efficiencies, yield gap analysis - concepts, types, and measurement

UNIT - III

Agricultural Development in India

Role and Importance of Agriculture in National Economy; Factors responsible for agricultural development in India; Growth in use of technological factors in production; Changes in agrarian structure in India, Patterns of Cropping in different regions, Shift in Cropping Pattern and its Implications on Food Security; Diversification in Indian Agriculture; Farm capital structure in Agriculture and its changes, Issues on Capital formation in Indian agriculture, Mechanization of Agriculture, Employment and Unemployment in agriculture.

UNIT-IV

Issues Related to Agricultural Marketing and Credit

Problems in Agricultural Marketing from Demand, Supply and Institutions sides: Reforms in Agricultural Produce Marketing Committee Act (APMC Act) Role and Importance of Agricultural Finance: Factors determining demand for credit, Recent policy changes in regard to farm credit and their implications; Financial Institutions and credit flow to rural/priority

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sector; An overall review of the progress of institutional finance in rural India since independence.

UNIT-V

Agricultural Problems and Policy Analysis

Situation of Farmers in India; Agriculture and Foreign Trade: Export Competitiveness Measures; Current Status of India's Agricultural Foreign Trade; Agriculture and WTO: Measures taken by India to increase exports of agricultural commodities; Policy on Agrarian Reforms; Agricultural Price Policy, Role of CACP, state intervention: Concept of Minimum Support Price and Procurement Price.

Reading List:

1. FAO (2017): The Future of Food and Agriculture: trends and Challenges, Food and Agriculture Organization of the United Nations, Rome.
2. FAO (2016): The State of Food and Agriculture, Climate Change Agriculture and Food Security, Food and Agriculture Organization of the United Nations, Rome.
3. Ministry of Agriculture and Farmers' Welfare (2016): State of Indian Agriculture 2015-2016, Department of Agriculture, Cooperation & Farmers Welfare Directorate of Economics and Statistics New Delhi
4. Agricultural Statistics at a Glance (2015): Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
5. Debertin, D. L., (2012): Agricultural Production Economics 2nd Edn, Macmillan Publishing Company, New Jersey, USA
6. FAO (2011): The State of Food and Agriculture, Women in Agriculture, Closing the gender gap for development, Food and Agriculture Organization of the United Nations, Rome.
7. Krishna, K. L. & Kapila, Uma (2009): Readings in Indian Agriculture and Industry, Academic Foundation, New Delhi.
8. Bhalla, G. S. and Gurmail Singh (2001) : Indian Agriculture : Four Decades of Development, Sage Publications, New Delhi.
9. Gulati, A. and T. Kelly (1999) : Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
10. Mahendra, Dev S. (1998): Regional Variations in Agricultural Performance in the Last Two Decades, *Indian Journal of Agricultural Economics*, Vol 53(1), January-March
11. Reddy, Subba S. and R. Raghu Ram. (1996): Agricultural Finance and Management, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
12. Bhalla, G.S. (1994) : Economic Liberalisation and Indian Agriculture, Institute for Studies in Industrial Development, New-Delhi.
13. Acharya and Agrawal (1992): Agricultural Marketing in India, oxford and IBH Publishing Co. Pvt. Ltd.
14. Haque, T. and Sirohi, A.S. (1986) : Agrarian Reforms and Institutional Changes in India, Concept Publishing Company, Delhi.
15. Bhardwaj, K. (1987): Analytics of Agriculture-Industry Relation, *Economic and Political Weekly*, Vo. 22, Issue No. 19-20-21
16. Ghatak, S and K. Ingersent. (1984): Agriculture and Economic Development, Select Book Service Syndicate, New Delhi.

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Course Code: PGECO1C002T
Course Title: Mathematics for Economics

Objective: Since the discipline of economics has significantly developed in a mathematical frame during the last sixty years and helped the subject to become more concise, the objective of this course is to equip the students with basic mathematical tools for better understanding of economics. This course has been introduced to provide an insight into the importance of mathematical methods in economics and to apply a range of mathematical techniques to economic problems

UNIT-I: Set Theory, Functions and Matrix Algebra

Set Theory: Concept of set and its operations; Relations and functions; Types of functions; Value of function at a point; Limit of a function- concepts and evaluation. Continuity of a function; Matrices: Elementary operations, Rank of matrix; Solution of simultaneous equations by matrix inverse method and cramer's rule; Linear Dependence and Independence of vectors; Characteristic roots and Eigen vectors; Cayley- Hamilton Theorem

UNIT-II: Differential Calculus

Rules of differentiation; differentiation of implicit, parametric, logarithmic and exponential functions; Partial and total differentiation; Homogeneous functions: properties of homogeneous functions and Euler's theorem; Maxima and minima of functions of one and two variables; Constrained maxima and minima of functions of two variables; Economic application of differentiation, partial differentiation and maxima and minima subject to constraint.

UNIT-III: Integral Calculus

Dynamics and integration; Rules of integration: Integration by Substitution, by parts and by partial fractions; Indefinite and definite integrals: Improper Integrals; Application of integrals in economics: Consumer surplus and producer surplus, Domar Growth Model.

UNIT-IV: Differential Equation and Difference Equation

Concepts, Solutions in case of variable separable, homogeneous differential equation, non-homogeneous differential equations, exact differential equation, linear differential equation of first order, linear differential equation of second order with constant coefficients; Difference equations: order and degree of difference equation, linear homogeneous difference equation with constant coefficients of first and second order, solution of non-homogeneous difference equation of first order; Applications: differential equations applied to market equilibrium, difference equations applied to market equilibrium; Cobweb model

UNIT-V: Linear Programming and Input-Output Analysis

Linear programming: Concept and formulation of LP problem, Solutions with Graphical and Simplex method, Applications of LPP, Dual formulation and interpretation; Input-Output Analysis: assumptions, technological coefficient matrix, closed and open I-O model, Hawkins-Simon conditions.

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Course Code: PGECO1C002T
Mathematics for Economics

Objective: Since the discipline of economics has significantly developed in a mathematical frame during the last sixty years and helped the subject to become more concise. The objective of this course is to equip the students with basic mathematical tools for better understanding of economics. This course has been introduced to provide an insight into the importance of mathematical methods in economics and to apply a range of mathematical techniques to economic problems.

UNIT-I

Set Theory, Functions and Matrix Algebra

Set Theory: Concept of set and its operations; Relations and functions; Types of functions; Value of function at a point; Limit and Continuity of a function; Matrices: Elementary operations, Rank of matrix; Solution of simultaneous equations by Matrix Inverse Method and Cramer's Rule; Linear Dependence and Independence of Vectors; Characteristic roots and Eigen vectors; Cayley Hamilton Theorem

UNIT-II

Differential Calculus

Principles of Differentiation; Differentiation of Implicit, Parametric, Logarithmic and Exponential functions; Partial and Total Differentiation; Homogeneous Functions: Properties of Homogeneous Functions and Euler's Theorem; Maxima and Minima of functions of one and two variables; Constrained Maxima and Minima of functions of two variables; Economic applications of differentiation, partial differentiation and maxima and minima subject to constraints.

UNIT-III

Integral Calculus

Dynamics and integration; Rules of Integration: Integration by Substitutions: By Parts and By Partial Fractions; Indefinite and Definite integrals; Improper Integrals; Application of Integrals in economics: Consumer Surplus and Producer Surplus; Domar Growth Model.

UNIT-IV

Differential Equation and Difference Equation

Concepts, Solutions in case of Variable Separable, Homogeneous Differential Equation, Non-Homogeneous Differential Equations, Exact Differential Equations, Linear Differential Equation of first order, Linear Differential Equation of Second Order with Constant Coefficients; Difference Equations: Order and Degree of Difference Equation, Linear Homogeneous Difference Equation with Constant Coefficients of First and Second Order, Solution of Non-Homogeneous Difference Equation of First Order; Applications: Differential and Difference Equations applied to market equilibrium; Cobweb model

UNIT-V: Linear Programming and Input-Output Analysis

Linear programming: Concept and formulation of LP problems, Solutions with Graphical and Simplex Method, Dual formulation and its interpretation; Application of LPP; Input-Output Analysis: Assumptions, Technological Coefficient Matrix, Open and Closed I-O Model, Hawkins Simon Conditions

Course Code: PGECO1E006T
Course Title: Agricultural Economics

Objective: To acquaint the learner with introductory Agricultural Economics and the issues in Indian Agriculture. This course will provide an orientation to the students regarding agricultural policies and its effect on sustainable agricultural development.

UNIT - I

Agriculture and Economic Development

Agricultural Economics: Nature, Scope and Subject Matter ; Role of Agriculture in Economic Development; Challenges to Food Security in Asian Context with special reference to India ; Economic Development and Declining Importance of Agriculture; Transforming traditional agriculture- The Schulzian Thesis; Mellor's theory of Agricultural Development; Boserup's theory of Agricultural Development; Applications of Production Function in Agriculture

UNIT - II

Inter Sectoral Issues and Farm Management

Terms of Trade between Agriculture and Industry; Lewis' Model of Economic Development; The Development of Dual Economy: Ranis-Fei Model; Tools of Analysis of Farm Management; Meaning and importance of measures of farm efficiency: Production function approach, Farm Budgeting Approach: Linear Programming Approach; Relationship between Farm Size and Productivity

UNIT -III

Agricultural Development in India

Factors responsible for agricultural development in India; Growth in use of technological factors in production; Land Reforms in India and their Impact on Agrarian Structure; Growth, Productivity and Regional Disparities in Indian Agriculture , Shift in Cropping Pattern and its Implications on Food Security; Diversification in Indian Agriculture; Capital Formation in Agriculture; Problem of Small and Marginal Farmers in India

UNIT-IV

Issues Related to Agricultural Marketing and Credit

Problems in Agricultural Marketing from Demand, Supply and Institutions sides: Reforms in Agricultural Produce Marketing Committee Act (APMC Act); Measures to improve the Efficiency of Agricultural Marketing in India; Role and Importance of Agricultural Finance: Sources of Agricultural Finance, Flow of credit to rural/priority sector, Factors determining demand for credit, Recent policy changes in farm credit and its implications; An overall review of the progress of institutional finance in rural India since independence.

UNIT-V

Agricultural Problems and Policy Analysis

Situation of Farmers' in India: Agrarian Crises and issue of Farmer suicide; Agricultural Price Policy: Instruments and Assessment; Agriculture and Foreign Trade: Export Competitiveness Measures; Current Status of India's Agricultural Foreign Trade; Agriculture and WTO: Measures taken by India to increase exports of agricultural commodities;

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(ANNEXURE I)

PGECO3E010T

Course No: PGECO-6004T

Course Title: ENVIRONMENTAL ECONOMICS

UNIT I. Introduction

Economy-Environment Interaction; Material Balance Principle; Entropy law; Interaction Between Ecological and Economic Systems; Environment-Development-Poverty Nexus; Sustainable Development Concept, Indicators and Rules. Environmental Kuznets's curve Hypothesis – Theory and Empirical Evidence;

UNIT II. The Theory of Externality and Public Goods

Public Goods and Bads-Introduction. Optimal Provision of Public Goods and Bads.Pricing Public Goods and Bads. Market Failure; Pigouvian Solution; Buchanan's Theory, Coase's Theorem and its Critique; Pigouvian vs Coasian Solution.

UNIT III. Environmental Valuation

Concept; Objective Standard Based Valuation, Subjective Preference Based Valuation. Indirect Methods of Environmental Valuation-Travel Cost Method, Hedonic Price Theory. Direct Methods of Environmental Valuation; Contingent Valuation Method- Hedonic Price Theory,

UNIT IV. Environmental Policy

Economic Instrument; Direct economic Instruments- Pollution charges, Tradable pollution permit, Deposit refund system, Indirect Economic Instruments; Choice Among Instruments; Monitoring and Enforcement; Macroeconomic Policies And Environment;

UNIT V. Environmental Regulation in India

Evolution of Environmental Policies in India; Environmental Legislation in India. Institution for Pollution Abatement in India; Emerging options – eco-taxes and eco-subsidies; Case studies on pollution control in India. India and International Cooperation to Reduce Pollution.

Suggested Reading List

- > Hanley N, J.F. Shogren, and B. White(2006), "Environmental Economics: In Theory and Practice", Oxford University Press.
- > Kolstad, C.(2000), "Environmental Economics", Oxford University Press.
- > Conrad, J.M. and C. Clark(1987), "Natural Resource Economics - Notes and Problems", Cambridge University Press.
- > Dasgupta, P.S. and G.M. Heal (1979), "Economic Theory and Exhaustible Resources", University Press (Selected chapters).



जम्मू केंद्रीय विश्वविद्यालय

Annexure - IV

Central University of Jammu

राया-सूचानी (बागला), जिला सांबा-181143 जम्मू (जम्मू एवं कश्मीर)

Rahya- Suchani (Bagla), District Samba-181143, Jammu (J &K)

Ph.No. 01923-2649658 and website: www.cujammu.ac.in

No. CUJ/Acad/II-14/20/2020/68

14th February, 2020

NOTIFICATION No. 12/2020

Sub: Course Matrix and Syllabus Notification of M.A. in Public Policy and Public Administration w.e.f. academic session 2019-20 – Reg.

It is hereby notified for the information of all concerned that, on the recommendations of the Board of Studies, Department of Public Policy and Public Administration and Dean, School of Humanities and Social Sciences, the Vice Chancellor, in anticipation of the approval of the Academic Council, has approved the **Course Matrix** and **Syllabus** of M.A. in Public Policy and Public Administration w.e.f. academic session 2019-20.

The approved Course Matrix and Syllabus are as under:

Semester – I

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core Courses						
PGPPA1C004T	Introduction to Public Administration	4	25	25	50	100
PGPPA1C005T	Introduction to Public Policy	4	25	25	50	100
PGPPA1C006T	Introduction to Governance	4	25	25	50	100
Elective Course (Any One)						
PGPPA1E003T	Local Governance in India	4	25	25	50	100
PGPPA1E004T	Social Welfare Administration in India	4	25	25	50	100
PGPPA1E005T	Organizational Behaviour	4	25	25	50	100
Foundation Course						
PGPPA1F002T	Indian Constitution and Administration	4	25	25	50	100
MOOC offered by SWAYAM		2 / 4	-	-	-	-
Total		20				500

Semester – II

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core Courses						
PGPPA2C004T	Administrative Thinkers	4	25	25	50	100
PGPPA2C005T	Comparative Public Administration	4	25	25	50	100
PGPPA2C006T	Research Methodology	4	25	25	50	100
Elective Course (Any One)						
PGPPA2E003T	Rural Governance	4	25	25	50	100
PGPPA2E004T	Law and Order Administration in India	4	25	25	50	100
PGPPA2E005T	Office Organization and Management	4	25	25	50	100
Foundation Course						
PGPPA2F002T	Financial Administration	4	25	25	50	100
MOOC offered by SWAYAM		2 / 4	-	-	-	-
Total		20				500


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19/2/2020

Semester – III

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core Courses						
PGPPA3C004T	Public Personnel Administration	4	25	25	50	100
PGPPA3C005T	Public Policy – Concepts, Theories and Models	4	25	25	50	100
PGPPA3C006T	Governance – Concepts and Models	4	25	25	50	100
PGPPA3C001D	Dissertation	4	-	-	-	100
Interdisciplinary Course						
PGPPA3I002T	Civil Services in India	4	25	25	50	100
Foundation Course						
PGPPA3F002T	Statistical Methods	4	25	25	50	100
MOOC offered by SWAYAM		2 / 4	-	-	-	-
Total		24				600

Semester – IV

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core Courses						
PGPPA4C004T	Public Policy Analysis	4	25	25	50	100
PGPPA4C005T	Social Policy: State, Market and Society	4	25	25	50	100
PGPPA4C006T	Issues in Governance	4	25	25	50	100
Elective Course (Any One)						
PGPPA4E001T	Urban Governance	4	25	25	50	100
PGPPA4E002T	Human Rights Administration in India	4	25	25	50	100
PGPPA4E003T	Public Sector Governance	4	25	25	50	100
Interdisciplinary Course						
PGPPA4I002T	Local Governments in India	4	25	25	50	100
Foundation Course						
PGPPA4F002T	Electronic Governance	4	25	25	50	100
MOOC offered by SWAYAM		2 / 4	-	-	-	-
Total		24				600


 19/2/2020
Deputy Registrar
 for (Admin – HR)

Encl: Syllabus of 1st to 4th semesters of M.A. in Public Policy and Public Administration

To:

Head, Department of PPPA

Copy to:

I/c. Controller of Examinations



DEPARTMENT OF PUBLIC POLICY AND PUBLIC ADMINISTRATION
CENTRAL UNIVERSITY OF JAMMU
Bagla (Rahya-Suchaini) District –Samba, Jammu

NO.CUJ/PPPA/2020/ 1981

Dated: 24.01.2020

To
The Assistant Registrar Academics
Central University of Jammu
Jammu

Sub: - Notification of M.A Syllabus of Public Policy and Public Administration (batch 2019-2021 onwards) - Regd.

Sir,

As per the minutes of the Board of Studies Department of Public Policy and Public Administration held on 17th May, 2019, the course matrix (Semesters, I, II, III and IV) and course curriculum (Semesters, I, II, III and IV) have been approved for the Masters in Public Policy and Public Administration (batch 2019-2021 onwards). There are certain changes/modifications in the course codes of the course matrix (Semesters, I, II, III and IV) and course curriculum (Semesters, I, II, III and IV) for the M.A syllabus which will be placed before forthcoming Board of Studies Meeting for rectification post facto. The approved minutes of the Board of Studies, the course matrix (Semesters, I, II, III and IV) and course curriculum (Semesters, I, II, III and IV) of the M.A syllabus (with modified course codes) are enclosed herewith for the notification of the same.

Hence you are requested to do the needful.

Thanking You

Prof. (Dr.) Deepak Pathania
Head

HEAD

Department of Public Policy & Public Administration
अध्यक्ष, लोक नीति एवं लोक प्रशासन विभाग
Central University of Jammu, Jammu.

Encl: Minutes of BoS and M.A Syllabus

Recommended &
forwarded.

Dean 30/1/20
School and Humanities and Social Sciences

DEAN

School of Humanities and Social Sciences
Central University of Jammu, Jammu, J&K

SoC Academics
31/01/2020

Acad (40)
30/1/20



Central University of Jammu

DEPARTMENT OF PUBLIC POLICY AND PUBLIC ADMINISTRATION

Minutes of the 9th BoS Meeting

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The 9th meeting of the Board of Studies (BoS) of the Department was held on 17th **May** 2019 at 11:00 AM. The following members were present in the meeting:

- | | |
|-----------------------------|----------------------------------|
| 1. Prof. Deepak Pathania | Chairman |
| 2. Prof. Ajmer Singh Mallik | Subject Expert (Special Invitee) |
| 3. Prof. Muhammad Tajuddin | Member |
| 4. Dr. G. Durga Rao | Member |
| 5. Dr. Rouchi Chaudhary | Invitee |
| 6. Dr. Govind K. Inakhiya | Invitee |
| 7. Dr. Mohit Sharma | Invitee |

The following resolutions were made:

Item No. 9.1 - Confirmed the minutes of the 7th Board of Studies held on 3rd April 2017.

Item No. 9.2 - Confirmed the minutes of the 8th Board of Studies held on 14 December 2018.

Item No. 9.3 - Considered and approved course matrix for IIIrd and IVth semesters of 2018-20 masters batch (Annexure I)

Item No. 9.4- Considered and approved course curriculum for IIIrd and IVth semesters of 2018-20 masters batch (Annexure II)

Item No. 9.5 - Considered and approved course matrix for Ist, IInd, IIIrd and IVth semesters of 2019-21 masters batch (Annexure III)

Item No. 9.6- Considered and approved course curriculum for Ist, IInd, IIIrd and IVth semesters of 2019-21 masters batch (Annexure IV)

- | | | |
|-----------------------------|--------------------|--------------|
| 1. Prof. Deepak Pathania | <i>[Signature]</i> | Signature |
| 2. Prof. Ajmer Singh Mallik | <i>[Signature]</i> | |
| 3. Prof. Muhammad Tajuddin | <i>[Signature]</i> | |
| 4. Dr. G. Durga Rao | <i>[Signature]</i> | G. Durga Rao |
| 5. Dr. Rouchi Chaudhary | <i>[Signature]</i> | |
| 6. Dr. Govind K. Inakhiya | <i>[Signature]</i> | |
| 7. Dr. Mohit Sharma | <i>[Signature]</i> | |
- [Handwritten notes: 17/5/2019, 17/05/2019, 17/5/19, Recommended]*

Department of Public Policy and Public Administration
Central University of Jammu, Jammu

Annexure - IV

Department of Public Policy and Public Administration
Central University of Jammu, Jammu



May 17, 2019

Board of Studies Approved Course Matrix (Semesters- I, II, III and IV) and Course Curriculum (Semesters- I, II, III and IV) for the Masters in Public Policy and Public Administration for the sessions 2019 – 2021 onwards

Department of Public Policy and Public Administration
Central University of Jammu, Jammu

Course Matrix: Semester -I (2019 - 2021 batch)						
Course Code	Course Title	Credit	CIA	MSE	ESE	Total Marks
CORE COURSES						
PGPPA1C004T	Introduction to Public Administration	4	25	25	50	100
PGPPA1C005T	Introduction to Public Policy	4	25	25	50	100
PGPPA1C006T	Introduction to Governance	4	25	25	50	100
ELECTIVE COURSES (ANY ONE)						
PGPPA1E003T	Local Governance in India	4	25	25	50	100
PGPPA1E004T	Social Welfare Administration in India	4	25	25	50	100
PGPPA1E005T	Organizational Behavior	4	25	25	50	100
FOUNDATION COMPULSORY (ABILITY ENRICHMENT)						
PGPPA1F002T	Indian Constitution and Administration	4	25	25	50	100
	MOOCS	2/4	--	--	--	--
Total		20				500

Course Matrix: Semester -II (2019 - 2021 batch)						
Course Code	Course Title	Credit	CIA	MSE	ESE	Total Marks
CORE COURSES						
PGPPA2C004T	Administrative Thinkers	4	25	25	50	100
PGPPA2C005T	Comparative Public Administration	4	25	25	50	100
PGPPA2C006T	Research Methodology	4	25	25	50	100
ELECTIVE COURSES (ANY ONE)						
PGPPA2E003T	Rural Governance	4	25	25	50	100
PGPPA2E004T	Law and Order Administration in India	4	25	25	50	100
PGPPA2E005T	Office Organization and Management	4	25	25	50	100
FOUNDATION ELECTIVE (SKILL BASED)						
PGPPA2F002T	Financial Administration	4	25	25	50	100
	MOOCS	2/4	--	--	--	--
Total		20				500



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Department of Public Policy and Public Administration
Central University of Jammu, Jammu

Course Matrix: Semester -III (2019 - 2021 batch)						
Course Code	Course Title	Credit	CIA	MSE	ESE	Total Marks
CORE COURSES						
PGPPA3C004T	Public Personnel Administration	4	25	25	50	100
PGPPA3C005T	Public Policy – Concepts, Theories and Models	4	25	25	50	100
PGPPA3C006T	Governance – Concepts and Models	4	25	25	50	100
PGPPA3C007D	DISSERTATION	4				100
ELECTIVE (INTERDISCIPLINARY)						
PGPPA3I002T	Civil Services in India	4	25	25	50	100
FOUNDATION ELECTIVE (SKILL BASED)						
PGPPA3F002T	Statistical Methods	4	25	25	50	100
	MOOCS	2/4	--	--	--	--
Total		24				600

Course Matrix: Semester- IV (2019 - 2021 batch)						
Course Code	Course Title	Credit	CIA	MSE	ESE	Total Marks
CORE COURSES						
PGPPA4C004T	Public Policy Analysis	4	25	25	50	100
PGPPA4C005T	Social Policy: State, Market and Society	4	25	25	50	100
PGPPA4C006T	Issues in Governance	4	25	25	50	100
ELECTIVE COURSES (ANY ONE)						
PGPPA4E001T	Urban Governance	4	25	25	50	100
PGPPA4E002T	Human Rights Administration in India	4	25	25	50	100
PGPPA4E003T	Public Sector Governance	4	25	25	50	100
ELECTIVE COURSE (INTERDISCIPLINARY)						
PGPPA4I002T	Local Governments in India	4	25	25	50	100
FOUNDATION COMPULSORY (ABILITY ENRICHMENT)						
PGPPA4F002T	Electronic Governance	4	25	25	50	100
	MOOCS	2/4	--	--	--	--
Total		24				600

CIA: Continuous Internal Assessment
MSE: Mid Semester Examination
ESE: End Semester Examination

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G. Dharma Rao

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Department of Public Policy and Public Administration

Central University of Jammu, Jammu

Semester: I

Course Title: Introduction to Public Administration (Core Course)

Course Cod: PGPPA1C004T

Credit: 4

Course Objective:

The importance of public administration derives from its crucial role in the governing of a society. All the great human events in history were probably achieved by what we today would call public administration. Organization and administrative practices in collective or public settings are as old as civilization. This foundation course is set to analyze the transformations in public administration with emphasis on current initiatives and emerging challenges in the field. Students are introduced to the study of public administration in a fast changing environment of globalized phenomenon.

Unit I: Introduction

- a) Meaning, Nature, Scope and Significance of Public Administration
- b) Evolution of Public Administration – Woodrow Wilson, Golembiewski and Nicholas Henry
- c) Approaches to Public Administration – Classical, Human Relations, Behavioral
- d) Approaches to Public Administration - Ecological and Systems

Unit II: Principles of Public Administration

- a) Division of Work, Coordination and Hierarchy
- b) Unity of Command, Span of Control and Delegation
- c) Centralization, Decentralization and Line and Staff
- d) Leadership, Supervision and Communication

Unit III: Organizations

- a) Concept of Organization
- b) Types of Organization: Department and Public Corporation
- c) Types of Organization: Public Company & Independent Regulatory Commission
- d) Organization and Methods

Unit III: Concepts

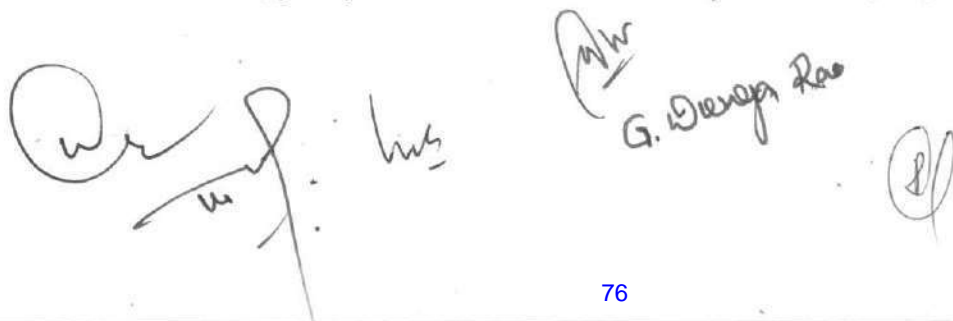
- a) New Public Administration: Minnowbrook I, II
- b) New Public Administration: Minnowbrook III
- c) New Public Management
- d) New Public Service

Unit VI: Emerging Trends

- a) Critical Social Theory
- b) Post Modern Public Administration
- c) Globalization and Public Administration
- d) Public Administration in transition

Select References:

Avasthi & Maheshwari (2012), Public Administration, Lakshminarayan Agarwal, Agra
Bhattacharya, Mohit (2013), New Horizons of Public Administration, Jawahar Publishers, New Delhi.
Donald Menzel and Harvey White (eds) (2011). The State of Public Administration: Issues, Challenges and Opportunities, New York, M. E. Sharpe.
Jan-Erik Lane, (2000) New Public Management: An Introduction, Routledge, London.
Ravindra Prasad, D. et al. (eds.) (2013), Administrative Thinkers, Sterling, New Delhi.
O'Leary, Rosemary et al. (2010), The Future of Public Administration around the World: The Minnowbrook Perspective, George Town university Press, DC
Martin Albro (1970), Bureaucracy, MacMillan, London,
Wilson, Woodrow, "The Study of Administration," Political Science Quarterly 2 (June 1887)
Golembiewski, Robert T., Public Administration as a Field: Four Developmental Phases, Politics & Policy, Volume 2, Issue 1, pages 21– 49, March 1974.
Henry Nicholas (2007), Public Administration and Public Affairs, Prentice Hall of India, New Delhi
Fox, Richard C. (2005), Critical Social Theory in Public Administration, PHI, New Delhi
George Frederickson (2008), The Public Administration Primer, Westview Press.
Denhardt and Denhardt (2007), The New Public Service, Serving, Not Steering, M.E. Sharpe, New York
Miller, H and Fox, C. (2007), Post Modern Public Administration, ME Sharp, New York
Jay M Shafritz (2017), Introducing Public Administration, Routledge, Taylor and Francis Group, New York
Sadhana and Sharma, (2018) Public Administration in Theory and Practice, PHI, New Delhi.

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu

Semester: I

Course Title: Introduction to Public Policy (Core Course)

Course Cod: PGPPA1C005T

Credit: 4

Course Objective:

The field of public policy has assumed considerable importance in response to the increasing complexity of the government activity. The advancements of technology, changes in the social organization structures, rapid growth of urbanization added to the complexities. The study of Public Policy aspires to provide an in-depth understanding of the ills prevailing in the society and aids to identify the solutions for them. Public policy is an important mechanism for moving a social system from the past to the future and helps to cope with the future. The main objective of this foundation course is to provide an opportunity to the student to learn the basic areas of public policy on the largest gamut of its capvas.

UNIT- I: Introduction to Public Policy

- a) Meaning, Scope Types and Importance of Public Policy
- b) Evolution of Public Policy and Policy Sciences
- c) Approaches/Perspectives of Public Policy
- d) Public Policy and Public Administration

UNIT- II: Stages of policy Process - I

- a) Policy Process – An Introduction
- b) Problem Identification and Agenda Setting
- c) Concept of Policy formulation/Policy making
- d) Institutions of Policy formulation/Policy making

UNIT- III: Stages of Policy Process - II

- a) Concept of Policy Legitimation/Adoption
- b) Concept of Policy Implementation
- c) Institutions of Policy Implementation
- d) Policy Impact

UNIT – IV: Stages of Policy Process - III

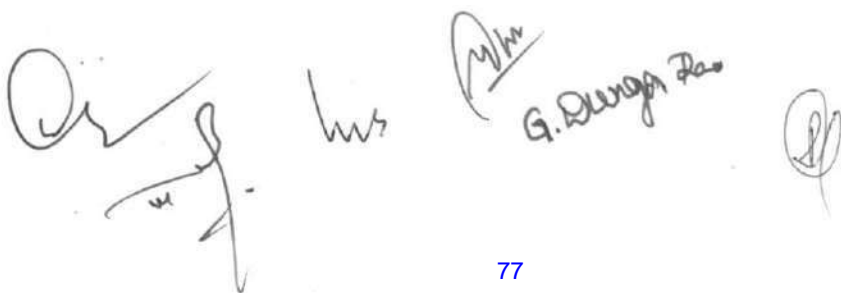
- a) Concept of Policy Evaluation
- b) Techniques of Policy Evaluation
- c) Constraints in Policy Evaluation
- d) Public Policy Analysis

UNIT - V: Public Policy in India

- a) Institutions of Policy Process
- b) Agencies in Policy Process
- c) Stake holders and Policy Process
- d) Impact of Globalization on Public Policy

Select References

- Anderson J.E., (2006) Public Policy-Making: An Introduction, Boston, Houghton
Birkland Thomas A., (2005), An Introduction to The Policy Process: Theories, Concepts, And Models of Public Policy Making, Armonk; M.E. Sharpe
Dror.Y, (1989), Public Policy making Re-examined, 2nd ed., San Francisco, Chandler. Dye
Thomas R Dye, (2008), Understanding Public Policy, Singapore, Pearson Education
Lindblom, C.E., and E.J., Woodhouse, (1993), The Policy making Process, 3rd ed., New Jersey., Prentice - Hall.
McCool, Daniel C. (ed.), (1995), Public Policy Theories, Models, and Concepts: An Anthology, NJ: Prentice-Hall.
Hill Michael, (2005), The Public Policy Process, Harlow, UK; Pearson Education, 5th Edition.
Kindon's J.W (1984), Agendas, Alternatives, and public policy, Harper Collians, New York.
John, Peter, (2012), Analysing Public Policy, 2nd ed., Routledge, Taylor and Francis Group, London.
Lasswell Harold, (1971), A Preview of Policy Sciences, New York, Elsevier.
Lerner, D. and H.D.Lasswell (eds.), (1951), The Policy Sciences, Stanford, Stanford University Press.
Lindblom, C.E., and E.J., Woodhouse, (1993), The Policy making Process, 3rd ed., New Jersey., Prentice - Hall.
McCool, Daniel C. (ed.), (1995), Public Policy Theories, Models, and Concepts: An Anthology, NJ: Prentice-Hall.
Wildwasky , Aaron (1980), The Art and Craft if Policy Analysis. Palgrave Macmillan, NY
Wildwasky , Aaron (1987), The Speaking truth of power, Transaction Publication, New Jersey.
Sapru RK, (2004), Public Policy: Formulation, Implementation and Evaluation, Sterling Publis aers, New Delhi.

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu

Semester: I

Course Title: Introduction to Governance (Core Course)

Course Cod: PGPPA1C006T

Credit: 4

Course Objective:

The term governance has made an impressive career in a number of disciplines concerned with regulation, order and law. The word 'Governance' appears in diverse academic disciplines. At general level, governance refers to theories and issues of social coordination and the nature of all patterns of rule. The theories of governance have changed the understanding of various concepts of state and its institutions. New jargon of words emerged into the social science literature with different connotations. In this background, the present course is aimed to provide an in-depth understanding of the basic tenets and trends of Governance.

UNIT - I: Introduction

- a) Governance: Definitions and Concept
- b) Good Governance: Concept and Principles
- c) New Governance Paradigm

UNIT - II: State and Governance

- a) Democratic State and Democratic Administration
- b) Neo-Liberalism and Rolling Back State
- c) Reinventing Government

UNIT - III: Citizen and Governance

- a) Accountability
- b) Participation
- c) Representation

UNIT - IV: Techniques of Governance

- a) Openness and Transparency
- b) Citizen Charter
- c) Social Audit

UNIT - V: Emerging Trends

- a) Public and Private Governance: An Overview
- b) Market & Civil Society
- c) Information and Communication Technology

Select References:

- Bell, S., and Hindmoor, A. (2009) Rethinking Governance: The Centrality of the State in Modern Society, Cambridge: Cambridge University Bell,
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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester -I

Course Title: Local Governance in India (Elective Course)

Course Code: PGPPA1E003T

4 Credits

Course Objective

Decentralization is a widely used concept, and it is closely linked with democracy, development and good governance. Local government is one form of a decentralized system which is affected by the transfer of authority or responsibility for decision making, management or resources allocation from higher level of government to its subordinate units. This interdisciplinary course analyses the complexities of local governance, both rural and urban, in contemporary India. It discusses some of the lesser known aspects of the interface between panchayats and other institutions of local governance, whether district administration or parastatal agencies and civil society organizations.

UNIT - I: Introduction:

- a) Meaning, Nature, Scope and Significance of Local Government
- b) Evolution of Local Governments in India
- c) Community Development Programme and Committees on Local Governance

UNIT - II: Decentralisation and Development

- a) Decentralisation, types and challenges
- b) Democratic Decentralisation in India
- c) Democratic Development (Rural Development and Urban Development)

UNIT - III: Organization Structure:

- a) The 73rd Constitutional Amendment Act
- b) and 74th Constitutional Amendment Act
- c) Structures of Rural Local Government - Composition, Functions and Role of Gram Sabha, Gram Panchayat, Panchayat Samiti and Zila Parishad
- d) Structures of Urban Local Government - Composition, Functions and Role of Municipal Corporation, Municipal Council and Nagar Panchayat

UNIT - IV: Accountability and Control

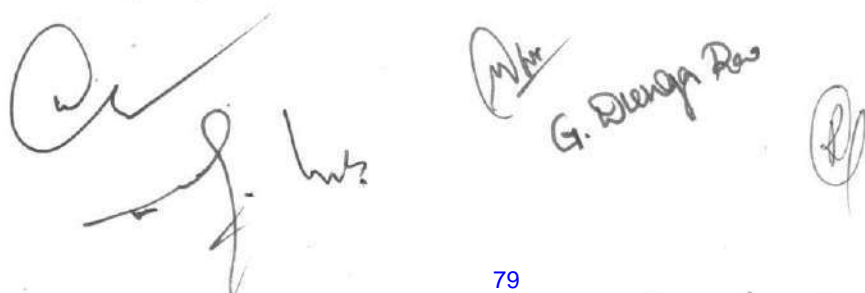
- a) Human Resource Management at Local level
- b) Finances of Local Governments
- c) Executive Control, Legislative Control and Financial Control

UNIT - V: Issue Areas

- a) State and Local Government Relations
- b) Local Governments in the context of Globalization
- c) Problems and Challenges of Local Governments

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester: I

Course Title: Social Welfare Administration (Elective Course)

Course Code: PGPPA1E004T

Credit: 4

Course Objective:

The modern welfare state has been striving for the betterment of human life for all. The concept of Equality, Equity and Inclusiveness has reinforced this demand. Hence, the Social Welfare and its delivery from state Agencies has become almost mandatory in all democracies of the world. So the course on Social welfare is an integral part for the students of Masters in Public Policy and Public Administration. At the end of the course, the students will be able to understand the concepts of social justice, social welfare and institutions, mechanisms and issues of social welfare administration in India.

Unit- I Introduction

- Welfare State and Socialism
- Social Welfare Administration: Meaning, Nature, Scope and Principles
- Scope, Principles & Task of Social Welfare Administration

Unit - II: Concepts

- Social Control: Meaning, Need, & Purpose
- Social Security and Social Development
- Social Justice, Empowerment and Inclusion

Unit- III: Social Welfare Administration in India

- Social Welfare Administration in India: Center, State and Local Level
- Central Social Welfare Board - Composition, Functions and Status;
- Directorate of Social Welfare Organisation & Functions

Unit- IV: Affirmative Action

- Constitutional Provisions for welfare of SCs/STs & other Backward Classes
- Programmes for the Development of SCs & STs and Women
- Ministry of Women and Child Development, Social Justice and Empowerment

Unit- V: Social Legislation and Personnel


- Social Legislation in India: Organisation, Nature, Types & Ways of social legislation
- Social Legislations in India: Marriage Act, Divorce Acts, The sexual Harassment of Women at Workplaces Protection of Women from Domestic Violence Act - 2005
- Social Welfare Personnel - Training needs and conditions of service

References

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G. Durga Rao



Department of Public Policy and Public Administration

Central University of Jammu, Jammu

Semester: I

Course Title: Organizational Behaviour (Elective Course)

Course Code: PGPPA1E005T

Credit: 4

Course Objective

The study of Organizational Behaviour (OB) is very interesting and challenging too. It is related to individuals, group of people working together in teams. The study becomes more challenging when situational factors interact. The study of organizational behaviour relates to the expected behaviour of an individual in the organization. No two individuals are likely to behave in the same manner in a particular work situation. This paper introduces concepts related to behavior of individuals in organizations.

Unit I: Introduction

Meaning, Nature, Scope and Significance
Perspectives and Foundations of Organizational Behavior
Evolution of Organizational Behavior
Management and Organizational Behavior

Unit II: Organizations

Organizational Structure and Design
Organizational Culture, Creativity and Innovation
Organizational Change and Development
Organizational Learning

Unit III: Organizational Dynamics - I

Personality and Individual behavior
Workplace behavior and Interpersonal Behaviour
Value Attitude and Job Satisfaction
Work Stress and Stress Management

Unit IV: Organizational Dynamics - I

Motivation
Power and Leadership
Communication
Decision Making

Unit V: Emerging trends

Conflict Management
Group Dynamics
Ethics and Social Responsibility
Corporate Social Responsibility

References

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Curtis W. Cook and Phillip L. Hunsaker, Management and Organisational Behaviour, Third Edition, McGraw-Hill, Irwin, 2001.
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G. Dharma Rao

Department of Public Policy and Public Administration
Central University of Jammu, Jammu

Semester: I

Course Title: Indian Constitution and Administration (Foundation Course)

Course Cod: PGPPA1F002T

Credit: 4

Course Objective

The Constitution of India defines the basic objectives and functioning of the government. It has provisions for bringing about social change and defining the relationship between individual citizen and the state. It lays out certain ideals that form the basis of the kind of country that we as a citizens aspire to live in. An in-depth analysis of various basic areas of constitution is the main objective of this inter disciplinary course. This helps the students to strengthen their understanding of Indian constitution and functioning of government.

UNIT I: Indian Constitution:

- a) Nature of the Constitution: Salient features of Preamble
- b) Fundamental Rights, Directive Principles and Fundamental Duties
- c) Amendments of the Constitution: Procedure for Amendment
- d) Emergency Provisions

UNIT II: Central Government

- a) Parliament: President, Lok Sabha and Rajya Sabha
- b) Political Executive: Prime Minister and Council of Ministers
- c) Permanent Executive- Central Secretariat, Cabinet Secretariat and PMO
- d) Union Judiciary - Supreme Court

UNIT III: Central -State Relations

- a) Indian Federation: Distinctive features
- b) Legislative Relations
- c) Administrative Relations
- d) Financial relations

UNIT IV: State Government

- a) Governor, Chief Minister and Council of Ministers
- b) Secretariat and Directorates
- c) Changing Nature of District Administration and the role of District Collector
- d) State Judiciary and Subordinate Judiciary

UNIT V: Local Government

- a) Concept of Local Government
- b) Democratic Decentralization in India
- c) 73rd Constitutional Amendment Act
- d) 74th Constitutional Amendment Act

Select References:

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S.R. Maheswari (2003), Local Government in India, Lakshmi Narain Aggarwal.


G. Ganga Rao

Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester: II

Course Title: Administrative Thinkers (Core Course)

Course Code: PGPPA2C004T

Credit: 4

Course Objective

Theory depends on its capacity to describe, to explain and to predict. Theory in public administration means to present evidence through definitions, concepts, and metaphors that promote understanding. The chronological narration of administrative theory from oriental thought through classical and human relations school, organizational humanism, and market theories of administration helps the student to grasp the subject. After completion of the course, students are in a position to comprehend the basic tenets and developments of administrative theory.

UNIT I: Administrative Theory

- a) Oriental Thought: Kautilya
- b) Woodrow Wilson – Evolution of Public Administration
- c) Karl Marx – State and Bureaucracy
- d) Max Weber - Bureaucracy

UNIT II: Classical School of Thought

- a) Frederick Winslow Taylor- Scientific Management
- b) Henri Fayol- Foundations of Management
- c) Luther Gulick and Lyndall Urwick- Science of Administration
- d) Mary Parker Follett – Constructive Conflict and Leadership

UNIT III: Neo Classical School of Thought

- a) Chester Barnard – Formal and Informal Organizations and Functions of Executive
- b) Elton Mayo – Human Relations Movement
- c) Herbert Simon: Behaviouralism and Decision-Making
- d) Dwight Waldo – The Administrative State

Unit IV: Organizational Humanism – I

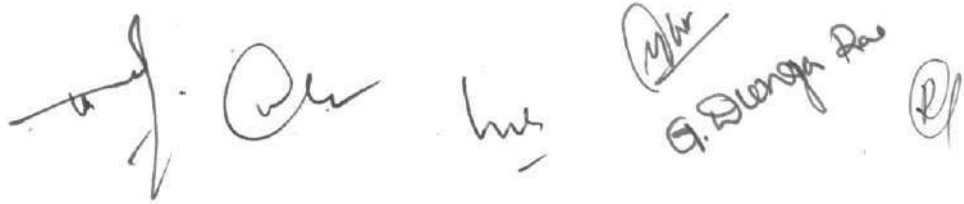
- a) Abraham Maslow: Needs Hierarchy
- b) Douglas McGregor: Theory X and Theory Y
- c) Frederick Herzberg: Hygiene and Motivation Factors
- d) Victor Vroom: Expectancy theory of motivation

Unit V: Organizational Humanism – II

- a) Chris Argyris: Integrating the Individual and the Organization
- b) Rensis Likert: Systems Management
- c) Warren Bennis: Changing Organisations
- d) Peter Drucker : Knowledge Based Organization

Select References:

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
SEMESTER - II

Course Title: Comparative Public Administration (Core Course)

Course Code: PGPPAZC005T

Credit: 4

Course Objective

Comparative Public Administration is the youngest discipline among the family of social sciences. As an academic discipline, it came into existence in the post Second-World War period. The comparative study of administrative system has grown up with the comparative study of cross-cultural and cross-national settings. This course presents a comparative outlook of performance of government, bureaucracy and institutions of developed and developing countries.

UNIT I: Introduction:

- a) Nature, Scope, Characteristics and Importance of Comparative Public Administration
- b) Evolution of Comparative Public Administration
- c) Critique of Comparative Public Administration

UNIT II: Approaches

- a) Bureaucratic Approach
- b) General Systems Approach
- c) Decision Making Approach

UNIT III: CPA: Contributions of F. W. Riggs

- a) Ecological Approach and Development Models by F.W.Riggs
- b) Structural-Functional Approach
- c) Theory of Prismatic Society

UNIT IV: Comparative Administrative Systems

- a) Classical Administrative System - France
- b) Developed Administrative Systems - USA and UK
- c) Modern Administrative Systems - Japan and Korea

UNIT V: Development Administration

- a) Nature, Scope and Elements of Development Administration
- b) Goals and Challenges of Development Administration
- c) Models of Development Administration: Sustainable Development, Human Development & Inclusive Development

References:

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G. Sengupta

Department of Public Policy and Public Administration

Central University of Jammu, Jammu

Semester: II

Course Title: Research Methodology (Core Course)

Course Code: PGPPA2C006T

Credit: 4

Course Objective

Research in common parlance refers to a search for knowledge. We can define research as a scientific and systematic search for pertinent information on a specific topic. Research Methods for Social Science explains different research methods used today for conducting research in particular with public administration. This course is intended as a sound introduction to study the research methods with an objective of understanding qualitative and quantitative research, tools and techniques for problem solving.

UNIT -I Introduction

- Meaning and characteristics of Science and Scientific method
- Meaning, Need, Objectives and Significance of Research in Social Science
- Types of Research: Basic, Applied & Action Research; Quantitative, Qualitative & Mixed Methods Research
- Fields of Research: Policy Research, Organizational Research, Behavioural Research & Comparative Research

UNIT - II: Planning the Research

- Review of Literature: purpose and importance; Locating of relevant literature; Reliability of the source
- Selection of Problem; Definition and Statement of the Problem
- Identification of Variables and Formulation of Hypotheses: Sources of deriving hypotheses, characteristics of good hypotheses, criteria for accepting or rejecting hypothesis
- Writing a Research Proposal: Need, Characteristics and layouts

UNIT - III: Methods of Research

- Historical Method; Nature, Types and Steps, Interpretation of Results (Internal and External Criticism)
- Survey Method; Definition, characteristics, Types; cross-sectional studies and longitudinal studies
- Experimental Method; Experimental research: nature, significance, variables in experimental research - independent, dependent and confounding variables; ways to manipulate independent variable, purpose & methods of control of confounding variables, experimental designs, threats to experimental validity-internal & external.
- Qualitative approaches of Research: Meaning, nature; Brief description of approaches-Phenomenology, Ethnography, Case studies, Grounded theory and Content Analysis

UNIT - IV: Sampling

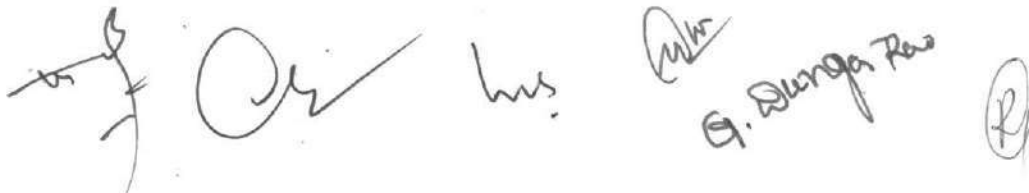
- Concept of Population and its types; Sampling Procedures; process and design
- Random Sampling Techniques: Concept, Types and Procedure
- Non- Random Sampling Techniques: Concept, Types and Procedure
- Rating Scale and Socio-metric Techniques

UNIT - V: Tools of Data Collection and Report Writing

- Tools: Concept, Types and ensuring validity and reliability, Rating Scale and Socio-metric Techniques
- Construction of Tool: Observation, Questionnaire, Schedule and Interview
- Research Report Writing / Research Paper: Concepts, Significance, and Characteristics
- Ethics and related issues in Research

Select References

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- Kothari, C.R. and Gaurav Garg (2014). *Research Methodology- Methods and Techniques*. New Age, New Delhi.
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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester- II

Course Title: Rural Governance (Elective Course)

Course Cod: PGPPA2E003T

Credit: 4

Course Objective:

Rural development has always been an important issue in all discussions pertaining to economic development, especially of developing countries, throughout the world. Although millions of rural people have escaped poverty as a result of rural development in many Asian countries, a large majority of rural people continue to suffer from persistent poverty. The term rural development connotes overall development of rural areas to improve the quality of life of rural people. As a discipline, it is multi-disciplinary in nature, representing an intersection of agriculture, social, behavioural, engineering and management sciences. The main objective of this course is to sensitize students to major issues and challenges in the rural sector and to provide an opportunity to systematically study these issues in the field.

UNIT I: Introduction

- a) Rural Governance: Meaning, Scope and Significance
- b) Rural Development: Perspectives
- c) Devolution Index

UNIT II: Rural Institutions - Panchayat Raj

- a) Panchayat Raj in India – An Evaluation
- b) Reforms in Panchayat Raj (73rd Constitutional Amendment Act and after)
- c) Panchayat Raj in Jammu & Kashmir

UNIT III: Resources and Development

- a) Rural Credit and Cooperatives
- b) Self – Help Groups
- c) ICT and E-Panchayats

UNIT IV: Areas of Governance

- a) Rural Development Programmes: IRDP, SGSY & MGNREGA
- b) Participatory Democracy and Participatory Governance
- c) Village Administration: Stake Holder Committees

UNIT V: Issues in Rural Governance

- a) Land Reforms
- b) Rural Unrest: Caste, Class and Gender
- c) Governing Elite and Rural Social Change

Select References:

- Chambers, Robert (1998), Rural Development: Putting the Last First, Harlow: Longman.
- Deaton, Angus and Valerie Kozel (eds.) (2005), The Great Indian Poverty Debate, Macmillan India Ltd., New Delhi.
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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester- II

Course Title: Law and Order Administration in India (Elective Course)

Course Cod: PGPPA2E004T

Credit: 4

Course Objective:

Law and order administration is one of the most important functions performed by the Government. In fact, the survival of administration depends upon maintenance of law and order in a country. The functioning of law and order administration comes under the state list with the Union/Central government having advisory and coordinating role. Rapid growth of population, industrialization, urbanization, growing political consciousness, political caste and communal violence, labor and student unrest and terrorism are indications of law and order problems. The present course addresses all these issues so that the student will be able to have comprehensive understanding of Law and Order Administration.

UNIT - I: Society and Police

- a) Society, Crime and Police
- b) Functions of Police
- c) Evolution of Police Administration in India

UNIT- II: Policing in India

- a) Police Reforms: Various Committees
- b) Indian Police Service
- c) Central Police Forces and Organizations

UNIT - III: Organization and Structure of Police

- a) Police Administration at Central Level
- b) Police Administration at State Level
- c) Police Administration at District Level

UNIT - IV: Emerging Issues in Police Administration

- a) Police and IT
- b) Women in Policing
- c) Community Policing


UNIT - V: Challenges of Policing in 21st Century

- a) Police and Human Rights
- b) Police and Terrorism
- c) Police and Social Media

References

- Shanker Sen: Indian Police Today, New Delhi, Ashish Publishing House, 1994.
K.M.Mathur: Internal Security Challengers and Police in a Developing Society, RBSA, Jaipur, 1989.
Charles D.Hale: Fundamentals of Police Administration, Boston, Helbrook Press, 1977.
S.C.Mishra: Police Administration in India, 1970.
D.H.Bayley: The Police and Political Development in India (Latest Edition).
O.W.Wilson and Roy Clinton McLaran: Police Administration (Latest Edition).
K.M.Mathur: Problems of Police in a Democratic Society, RBSA Publishers, Jaipur, 1987.
N.S.Saksena: Law and Order in India, Abhinav Publications.
P.D.Sharma: Indian Police – A Development Approach (Latest Edition).

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G. Dhanraj Rao







Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester- II

Course Title: Office Organization and Management (Elective Course)

Course Cod: PGPPA2E005T

Credit: 4

Course Objective

The onset of twenty-first century has seen the Modern Office undergoing a technical revolution resulting in radical changes. A comparison of today's office with the office of a decade earlier explains the advent of information explosion and tremendous transformations resulting in the way in which the office was managed undergoing a rapid and remarkable change. The advent of several technologies and gadgets has changed the face of Modern Office. The phrases like "The Paperless Office" have come to be recognized as relevant and feasible. The contemporary office is providing innumerable opportunities to be capitalized by the Modern Office Manager. The course on Office Organization and Management incorporates most of the changes that have taken place in the realm of Office Management and help the students to learn all aspects related to Office Management.

Unit I - Introduction to Office Management

- a) Concept of Office: Definition, functions and importance of Office
- b) Office Management and Office Manager
- c) Office Organization and Office Administration

Unit II - Office Space and Environment Management

- a) Office Space Management
- b) Office Environment Management
- c) Office Services

Unit III - Office Systems and Machines

- a) Office Systems and Procedures
- b) Office Equipment and Furniture
- c) Office Machines

Unit IV - Record Management

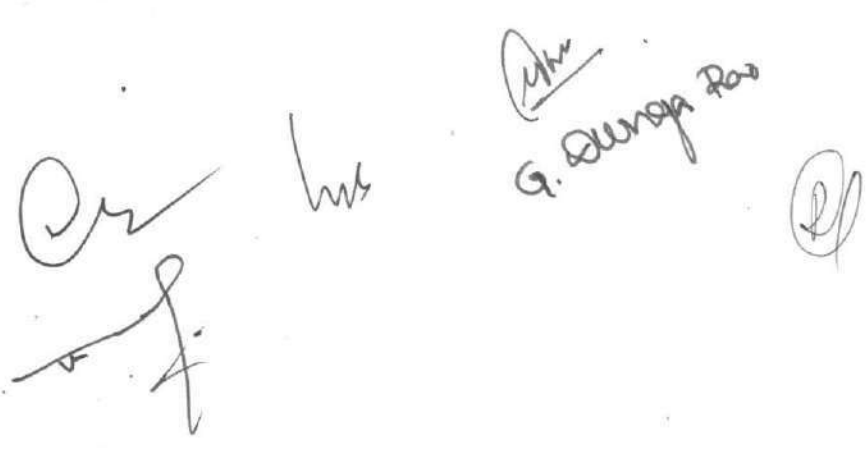
- a) Office Forms - Design, Management and Control
- b) Records Management
- c) Office Stationery and Supplies

Unit V- Communication Management

- a) Communication Management
- b) Office correspondence and Mail Service
- c) Management Reporting

References

- George R. Terry, (1966), Office Management and Control, Chicago Press, Chicago.
- J.C. Denyer (1980) Office Management, Macdonald and Evans.
- William Henry Leffingwell, Edwin M. Robinson. 1950, Textbook of Office Management. McGraw-Hill.
- Mills and Standingford, (1958), Office Organization and Methods, Sir Isaac Pitman & Sons.
- John Joseph William Neuner, Billy Lewis Keeling, Norman Francis Kallaus, (1972), Modern Office Management, South-western Publishing Company.
- R.K. Chopra, Priyanka Gauri, (2015), Office Management, Himalaya Publishing House Pvt. Ltd. New Delhi.
- Chopra, R.K. 1998. Office Management, Himalaya Publishing House, Delhi.
- Office Management - S. C. Sahoo, Baldev Kar, Himalaya Publishing House.
- Ghosh, P.K. 1998. Office Management: Principles and practice. Sultan Chand & Sons, New Delhi.
- Sherlekhar & Sherlekhar (2018), Modern business organisation and management: Himalaya Publishers
- Y.K. Bhushan - Fundamentals of Business organization and Management, Sultan Chand & Sons, New Delhi.
- C.B. Gupta - Business organization and Management, Sultan Chand & Sons, New Delhi.


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Department of Public Policy and Public Administration

Central University of Jammu, Jammu

Semester: II

Course Title: Financial Administration (Foundation Course)

Course Code: PGPPA2F002T

Credit: 4

Course Objective

Finance is the fuel for the engine of public administration and it was defined as government is finance. This is quite correct, because almost everything the government does, require money. This course provides an overview of the activities, participants, and politics involved in the collection, custody, and expenditure of public revenue at various levels of government. Upon successful completion of this course, students should be able to have knowledge of basic principles in public finance, accounting, and auditing that relate to public budgeting and the budgetary process.

UNIT- I: Introduction

- a) Public Finance: Evolution, Meaning and Scope
- b) Public Revenue: Meaning, Need, Classification and Principles of Revenue
- c) Public Expenditure: Meaning, Need and Classification
- d) Financial Administration: Meaning and Scope and Significance

UNIT- II: Tax Governance

- a) Concept of Taxation
- b) Classification of Taxes
- c) Principles of Taxation
- d) Tax Governance in India

UNIT- III: Budget and Governance

- a) Public Budget: Meaning, Purpose and Significance
- b) Budget Preparation, Enactment and Execution
- c) Types of Budget: Line-Item Budget, Program Budget and Performance Budget
- d) Types of Budget: PPBS, Zero -Based Budgeting, Gender Budget and Green Budget

UNIT-IV: Financial Administration in India

- a) Fiscal Federalism: Centre-State Financial Relations
- b) Ministry of Finance: Organization & Functions
- c) Finance Commission: Composition & Functions
- d) Monetary Policy & Fiscal Policy

UNIT-V: Control over Finances

- a) Fiscal Management: Public Debt and Deficit Financing
- b) Audit: Meaning and Types
- c) Comptroller and Auditor General of India
- d) Parliamentary Financial Committees

Select References:

- Agarwal Pratibha (2012), Fiscal Federalism in India: New Century Publications
- Brigham Eugene F. (2011), Financial Management : Theory and Practice, Cengage Learning India.
- Carlos , Santiso(2009) The Political Economy of Government Auditing, Taylor and Francis
- Chelliah, Raja J (1970), Fiscal Policy in Underdeveloped Countries: Allen & Unwin
- Chen Greg G et al (Eds) (2008), Budget Tools: Financial Methods in the Public Sector, CQ Press.
- Government of India, Second Administrative Reforms Commission, Fourteenth Report, Strengthening Financial Management, Systems, April 2009.
- Hillman (2003), Public Finance and Public Policy : Oxford University Press
- L.K.Jha (1986), Economic Administration in India - Retrospect's and Prospect, New Delhi: IIPA
- Lee Robert D. Jr., et al (Eds) (2007), Public Budgeting Systems, Jones & Bartlett Learning.
- Mahajan Sanjeev Kumar and Anupama Puri Mahajan (2014), Financial Administration in India, PHI Learning,
- Mikesell,John (2010), Fiscal Administration, Cengage Learning.
- Mugrave R A and P B Mugrave (2004), Public Finance in Theory and Practice: Tata Mc- Graw Hill
- Prest A.R (1975), Public Finance in Theory and Practice: Weidenfield and Nicolson
- Pritchard W (2010) Taxation and state building: Towards governance focused tax reform agenda. IDS Working Paper
- R.K. Lekhi and Joginder Singh (2013), Public Finance, Kalyani Publishers, New Delhi.
- Rabin Jack, W. Bartley Hildreth, Gerald J. Miller (2006) Handbook of Public Financial Management, Taylor & Francis Group.

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester: III

Course Title: Public Personnel Administration (Core Course)

Course Code: PGPPA3C004T

Credit: 4

Course Objectives

Human resource administration concerns human resource management as it applies specifically to the field of public administration. Human resources administration in public and nonprofit settings includes human resource planning, staffing, development, and compensation. The function of human resources administration is to provide the employees with the capability and capacity to achieve long term goals and plans. The course seeks to acclimatize the students with the fundamental and advanced percepts of human resource administration.

UNIT- I: Introduction

- a) Public Personnel Administration: Importance, Scope and Perspectives
- b) Concept of Meritocracy
- c) Public Service: Concept and Role in Modern State
- d) Public Institutional Theory

UNIT- II: Classification and Recruitment

- a) Man Power Planning
- b) Classification of Services
- c) Recruitment: Principles, Methods and Selection Process
- d) Personnel Agencies

UNIT- III: Training and Development

- a) Training: Objectives, Types, Methods, Techniques and Training Needs Assessment
- b) Performance Evaluation – Traditional and Modern methods
- c) Capacity Building- Institutional Building
- d) Promotion, Principles and Practices

UNIT –IV: Pay and Conditions of Services

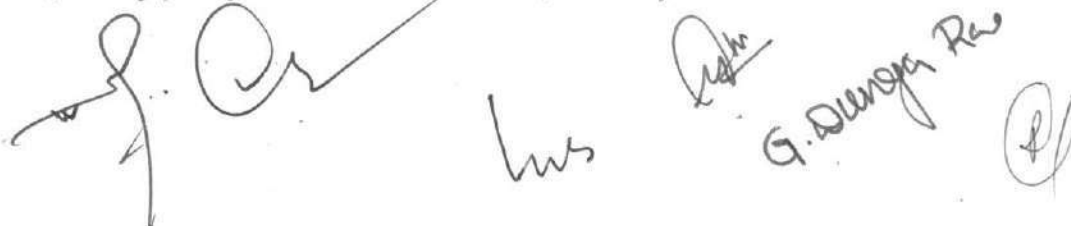
- a) Pay and Pay Principles
- b) Agencies and Mechanisms for Pay Determination
- c) Conduct and CCS Rules
- d) Discipline and Superannuation

UNIT –V: Concepts and Emerging Trends

- a) Neutrality, Anonymity and Integrity, Accountability and Transparency
- b) Generalists and Specialists Controversy
- c) Civil Service Reforms
- d) ARC Recommendations Ist & IInd

Select References:

- Armstrong, Michael (2007), A Handbook of Human Resource Management Practice, Kogan Page, London.
- Aswathappa K. (2013), Human Resource Management: Text and Cases, McGraw Hill, New Delhi
- Farazmand, Ali (1994), Handbook of Bureaucracy, Taylor & Francis, New York.
- Flippo Edvin B., (1976), Principles of Personnel Management, McGraw-Hill
- Goel, S.L.& Rajneesh, Shalini (2003), Public Personnel Administration, Deep & Deep, New Delhi
- Government of India, Second ARC, Tenth Report on 'Refurbishing of Personnel Administration'
- Jack Robin, et al (eds) (1994), Handbook of Public Personnel Administration, Taylor & Francis, New York.
- Jain, R.B. (1994), Aspects of Personnel Administration, IIPA, New Delhi
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- Naff, Katherine C., Norma M. Riccucci, (2014), Personnel Management in Government: Politics and Process (Seventh Edition), CRC, Taylor & Francis, New York.
- Riccucci, Norma (2007), Public Personnel Administration and Labor Relations, M.E. Sharpe, New York.
- Shafritz, Jay M et al. (2001). Personnel Management in Government, Marcel Dekker, New York.
- Stahl O. Glenn (1983), Public Personnel Administration, Harper & Row.
- Teard, Ordway (1920), Personnel Administration, University of California Libraries.



Department of Public Policy and Public Administration
Central University of Jammu, Jammu
SEMESTER - II

Course Title: Public Policy-Concepts, Theories and Models (Core Course)

Course Code: PGPPA3C005T

Credit: 4

Course Objective

Public policy making is not merely a technical function of government; rather it is a complex interactive process influenced by the diverse nature of socio-political and other environmental forces. Public policies in the developing countries possess certain peculiarities of their own by virtue of being influenced by an unstable socio-political environment, and face various problems and challenges. This course outline of concepts and models provide useful guidance and helps the students to undertake a comprehensive investigation for the suitable models to analyze our policy making process.

UNIT- I: Concepts of Public Policy

- a) Rationalism
- b) Incrementalism
- c) Mixed Scanning Model
- d) Garbage Can Model

UNIT-II: Theories of Public Policy - I

- a) Political Systems Theory (Black Box Model)
- b) Institutionalism
- c) Process Theory
- d) Game Theory

UNIT- III: Theories of Public Policy - II

- a) Group Theory
- b) Elite Theory
- c) Public Choice Theory
- d) Systems Theory

UNIT- IV: Models of Public Policy - I

- a) Yehezkel Dror: Mega Policy and Meta Policy
- b) Aaron Wildavsky: Speaking Truth to Power
- c) Geoffrey Vickers: Art of Judgment
- d) J.W. Kindon: Streams and Windows model

UNIT- V: Models of Public Policy - II

- a) John Rawls: A Theory of Justice
- b) Vilfredo Pareto: Optimality and Improvement
- c) Almond Gabriel: Interest Aggregation and Articulation
- d) Amartya Sen: Development as Freedom

Select References

- Anderson J.E., (2006) Public Policy-Making: An Introduction, Boston, Houghton
Barker, Anthony, and B. Guy Peters (eds.), (1993), The Politics of Expert Advice: Creating, Using, and Manipulating Scientific Knowledge for Public Policy, Ithica, NY: University of Pittsburgh Press.
Bergerson, Peter J. (ed.), (1991), Teaching Public Policy: Theory, Research and Practice, Westport, RI: Greenwood Press
Birkland Thomas A., (2005), An Introduction to The Policy Process: Theories, Concepts, And Models of Public Policy Making, Armonk; M.E. Sharpe
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Dye Thomas (2008), Understanding Public Policy, Singapore, Pearson Education
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John, Peter, (2012), Analysing Public Policy, 2nd ed., Routledge, Taylor and Francis Group, London. Lasswell
Harold, (1971), A Preview of Policy Sciences, New York, Elsevier.
Lerner, D. and H.D.Lasswell (eds.), (1951), The Policy Sciences, Stanford, Stanford University Press. Lindblom,
C.E., and E.J., Woodhouse, (1993), The Policy making Process, 3rd ed., New Jersey., Prentice - Hall.
McCool, Daniel C. (ed.), (1995), Public Policy Theories, Models, and Concepts: An Anthology, NJ: Prentice-Hall.
Wildwasky , Aaron (1980), The Art and Craft if Policy Analysis, Palgrave Macmillan, NY
Wildwasky , Aaron (1987), The Speaking truth of power, Transaction Publication, New Jersey



G. Durgapada Rao



Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester: III

Course Title: Governance: Concepts and Models (Core Course)

Course Code: PGPPA3C006T

Credit: 4

Course Objective:

The term governance has made an impressive career in a number of disciplines concerned with regulation, order and law. The word 'Governance' appears in diverse academic disciplines. At general level, governance refers to theories and issues of social coordination and the nature of all patterns of rule. Understanding of governance has changed the understanding of various concepts of state and its institutions. New jargon of words measuring governance and innovations in governance emerged in the literature. In this background, the present course is aimed to provide an in-depth understanding of the concepts and models of Governance.

UNIT - I: Governance: Important Concepts

- a) New Governance and Governance Networks
- b) Collaborative Governance
- c) Global Governance and UNSDGs

UNIT -II: Engaged Governance

- a) Participatory Governance: An Overview
- b) Rationale of Participation
- c) Challenges in Engagement and Participation
- d) Case Studies: Kudumshree (Kerala), Grameen Bank (Bangladesh), Participatory Budgeting (Brazil), Watershed Development Programme (Ralegansiddhi)

UNIT -III: Innovations in Governance

- a) Innovations in Public Services: An Historical Perspective
- b) Innovations in Governance: Conceptual Framework
- c) Public Governance and Innovations: Administrative Reform to Innovation Discourse
- d) Institutional Framework for Promoting Innovations

UNIT - IV: Measuring Governance

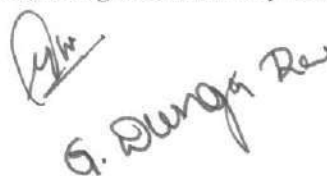
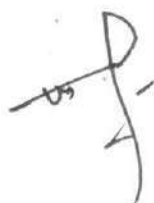
- a) Measuring Governance: Concept, Need and Significance
- b) Measuring Governance: Methodology & Inadequacy of Existing Measurement
- c) World Wide Governance Indicators

UNIT - V: Models and Agencies of Measuring Governance

- a) Models: Procedural Measure and Capacity Measure
- b) Models: Output Measure and Autonomy Measure
- c) Agencies: UNDP Human Development Report-Human Development Index
- d) Agencies: Transparency International-Corruption Perceptions Index

Select References:

- Bevir, Mark (2009), Key Concepts in Governance, Sage, London. .
- Kjaer, A (2004) Governance. Cambridge, UK: Polity Press.
- Kooiman, Jan. (2003) Governing as Governance. London: Sage.
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- Kathe Callahan (2007), Elements of Effective Governance: Measurement, Accountability and Participation, CRC Press, Taylor and Francis Group, Boca Raton.
- Katherine Berscha and Sandra Botero (2014), Measuring Governance: Implications of Conceptual Choices, *European Journal of Development Research* Vol. 26, pp.124-141
- Kaufmann, Daniel, Frannie Leautier, and Massimo Mastruzzi. (2005), "Governance and the City: An Empirical
- Kaufmann, Daniel, Kraay, Aart, and Mastruzzi, Massimo (2009), Governance Matters VIII : Aggregate and Individual Governance Indicators, Policy Research Working Paper: Washington DC, World Bank.
- Anttiroiko et.al. (Eds.) (2011), Innovations in Public Governance, IOS Press.
- Innovations in Governance and Public Administration: Replicating what works, (2006) Department of Economic and Social Affairs, United Nations, New York
- Jean Hartley (January 2005), Innovation in Governance and Public Services: Past and Present, *Public Money & Management*, pp.27-36.
- Sandford Borins, ed., (2008), Innovations in Government Research, Recognition, and Replication, Brookings Institution Press.



G. Durga Rao

Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester - III
DISSERTATION

Course Code: PGPPA3C001D

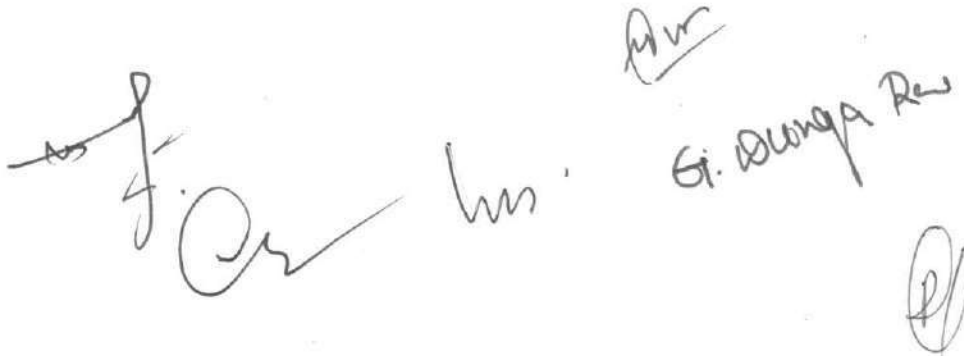
Credit: 4

Course Objective:

The Masters level dissertation is distinguished from other forms of writing as it seeks answers, explanations, makes comparisons and arrives at generalisations which can be used to extend theory. The dissertation is the final stage of the Masters degree and provides the student with the opportunity to show that he/she has gained the necessary skills and knowledge in order to organise and conduct research. The dissertation should demonstrate that the student is skilled in identifying an area suitable for research, setting research objectives, organising and critically analysing the relevant literature, devising an appropriate research methodology, analysing the primary data selected and drawing conclusions. The dissertation is a 'formal' document and there are 'rules' that govern the way in which it is presented. It must have chapters that provide an introduction, a literature review, a justification of the data selected for analysis and research methodology, analysis of the data and, finally, conclusions and recommendations.

The dissertation carries 4 Credits and divided into the following topics

1. Problem Identification and Review of Literature - 30 Marks
2. Research Proposal and Presentation - 20 Marks
3. Data Collection, Analysis, Interpretation and Report Writing - 30 Marks
4. Viva Voce (Mandatory) - 20 Marks

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
SEMESTER-III

Course Title: Civil Services in India (Interdisciplinary Course)

Course Code: PGPPA31002T

Credit: 4

Course Objective

The term 'civil services' covers the large number of permanent officials required to run the machinery of government. The core of parliamentary government, which we have adopted in India, is that the ultimate responsibility for running the administration rests with the elected representatives of the people. Ministers lay down the policy and it is for the civil servants to carry out this policy. This interdisciplinary course aims to present an overview of the structure, trends and issues related to the civil services in India.

UNIT - I: Introduction

- a) Bureaucracy: Meaning, Scope and Significance
- b) Civil Service: Concept, Significance and Evolution
- c) Classification of Civil Services

UNIT - II: Recruitment and Training

- a) Recruitment: Methods and Significance
- b) Union Public Service Commission and Other Service Commissions
- c) Training of Public Servants in India

UNIT - III: Promotion, Pay and Discipline

- a) Promotion System in India
- b) Salary and Service Conditions
- c) Disciplinary Procedure for Civil Servants

UNIT - IV: Civil Service-Citizenry Interface

- a) Accountability and Corruption
- b) Civil Society and Administration
- c) Technology and Changing Nature of Public Services

UNIT V: Indian Civil Services: Major Issues

- a) Generalists and Specialists Controversy
- b) Civil Service Reforms
- c) ARC Recommendations Ist & IInd

References:

- Armstrong, Michael (2007), A Handbook of Human Resource Management Practice, Kogan Page, London.
- Aswathappa K. (2013), Human Resource Management: Text and Cases, McGraw Hill, New Delhi
- Farazmand, Ali (1994), Handbook of Bureaucracy, Taylor & Francis, New York.
- Flippo Edvin B., (1976), Principles of Personnel Management, McGraw-Hill
- Goel, S.L.& Rajneesh, Shalini (2003), Public Personnel Administration, Deep & Deep, New Delhi
- Government of India, Second ARC, Tenth Report on 'Refurbishing of Personnel Administration'
- Jack Robin, et al (eds) (1994), Handbook of Public Personnel Administration, Taylor & Francis, New York.
- Jain, R.B. (1994), Aspects of Personnel Administration, IIPA, New Delhi
- Maheswari Sriram (2005), Public Administration in India: The higher Civil Service, Oxford University Press, New Delhi
- Naff, Katherine C., Norma M. Riccucci, (2014), Personnel Management in Government: Politics and Process (Seventh Edition), CRC, Taylor & Francis, New York.
- Riccucci, Norma (2007), Public Personnel Administration and Labor Relations, M.E. Sharpe, New York.
- Shafritz, Jay M et al. (2001), Personnel Management in Government, Marcel Dekker, New York.
- Stahl O. Glenn (1983), Public Personnel Administration, Harper & Row.
- Tead, Ordway (1920), Personnel Administration, University of California Libraries.

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
SEMESTER-III

Course Title: Statistical Methods (Foundation Course)

Course Code: PGPPA3F002T

Credit: 4

Course Objective:

Statistical methods and computer applications are very useful instrument for the quality social science research. Computers are extremely useful for the processing of large quantities of data and reducing data to more manageable and easily understood forms. So the objective of this course is to enhance the knowledge about statistical methods and computer applications among the students of public policy and public administration.

UNIT- I

- a) Meaning, importance and Scope of Statistics
- b) Type of Data: Primary and Secondary, univariate, multivariate categorical data.
- c) Classification of Data: Function, Rule and Bases, Graphical representation of data (Histogram & Ogive).

UNIT- II

- a) Mean Median and Mode.
- b) Measures of deviation: average deviation, standard deviation.
- c) Normal distribution: Characteristics of Normal and probability curve and deviation from normality (Skewness and Kurtosis).

UNIT- III

- a) Estimate of Relation: Examining relationships by scatter plots.
- b) Types and methods correlation Analysis (Pearson Product Moment co-efficient of correlation & Rank Order co-efficient of correlation).
- c) Regression: Linear and nonlinear regression.

UNIT- IV

- a) Parametric tests: Critical ratio, Analysis of Variance (ANOVA)
- b) Non-Parametric tests: Chi-square
- c) Types of hypotheses, Confidence interval, level of significance and hypotheses testing, One tailed and two tailed tests, Types I and Type II Error

UNIT- V

- a) Use of computers in research: Data processing (Editing, coding and tabulation)
- b) Excel (single and multiple cells)
- c) SPSS

Select References

Brent Edward E., Jr. Ronal E. Anderson(1990), Computer Applications in the Social Sciences, McGraw-Hill. Bryman, Alan (2004), Social Research Methods. Delhi: Oxford University Press.

Burton, Dawn (Eds.) (2000) Research Training for Social Scientists, Sage Publications, New Delhi.

Chawla Deepak and Neena Sondhi (2011), Research Methodology- Concepts and Cases, Vikas Publishing, New Delhi.

Garson G. David(1999), IT and Computer Applications in Public Administration, Idea Group Inc.

Gerber Eller (2013), Public Administration Research Methods- Tools for Evaluation and Evidence based practices, Routledge, NY. Goode William J. and Paul K. Hatt (2006), Methods in Social Research, McGraw Hill Book Company, USA.

Gupta S.P. (2011), Statistical Methods, Sultan Chand and Sons, New Delhi.

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
SEMESTER - IV

Course Title: Social Policy: State, Market and Society (Core Course)

Course Code: PGPPA4C005T

Credit: 4

Course Objective:

Social Policy in a development context is the overarching framework of a wide-ranging inquiry into social policy that is developmental, democratic and socially inclusive. It is increasingly evident that social policy has a significance that goes beyond even the valid concerns about basic equity and minimal living standards, which form part of the social and economic rights of citizens. This course will explore the interplay between democracy and social policy from the perspective of state and market and civil society and focus on the role of democratic forces in the development of social policy.

UNIT- I: Introduction

- a) Social Policy and Administration: Meaning, Scope and Significance
- b) Relationship of Social Policy with Academic Disciplines
- c) Social Justice: Concept and Philosophy
- d) Social Exclusion and Inclusion

UNIT- II: Welfare States

- a) Social context of welfare
- b) Inequality and Redistribution
- c) Welfare States: Models and Regimes
- d) Welfare States: Patterns of development

UNIT- III: Social Welfare

- a) Values and Ideology in Social Welfare
- b) Strategies for Social Welfare
- c) Public Services and Welfare bureaucracies
- d) Administrative Process of Social Welfare

UNIT- IV: Emerging Trends


- a) Affirmative Action and Positive Discrimination
- b) Policy for Inclusive Development: Growth with Equity
- c) Social Participation: Issues of Gender, Weaker Sections and Environment
- d) Distribution of Welfare - State Vs. Market Debate

UNIT- V: Issues and Interventions in Social Policy

- a) International Welfare Organizations: Refugees, Migrants and Human Trafficking
- b) Role of Civil Society Organizations in Social Welfare
- c) Sustainable Development Goals and Human Development Index: The Global Targets
- d) Ethical Concerns in Social Policy

Select References:

- Paul Spicker, (2014), Social Policy: Theory and Practice, Policy Press, Bristol, UK.
Baldock John, et al, (2011), Social Policy, Oxford University Press.
Bochel, Hugh and Guy Daly (2014), Social Policy, Routledge.
Dev, Mahendra (2008), Inclusive Growth in India, Oxford Collected Essays. Kennedy, Patricia (2013) Key Themes in Social Policy, Routledge.
Morales Daniel A. Gomez (1999), Transnational Social Policies, IDRC/CRDI
Miller, David (1976), Social Justice, Clarendon Press, Oxford
Naila, Kabeer (2006), Social Exclusion and the MDGs. The Challenge of 'Durable Inequalities' in the Asian Context, Institute of Development Studies and Overseas Development Studies Institute.
Sharma Arvind (2005), Reservation and Affirmative Action: Models of Social Integration in India and the United States, Sage.
Sen, Amartya (2009), The Idea of Justice, Allen Lane & Harvard University Press.
Sen, Amartya (2000), Social Exclusion: Concept, Application and Scrutiny, Social Development Papers No. 1, Asian Development Bank.
Thorat, Sukhadeo & Narendra, Kumar (2008), In Search of Inclusive Policy: Addressing Graded Inequality, Rawat Publications, New Delhi & Jaipur.
Yadav, Sushma, (2006), Social Justice: Ambedkar's Vision, IIPA, New Delhi.
Valerian Rodrigues (2002), The Essential Writings of B.R. Ambedkar, Oxford University Press, New Delhi.
Yadav, Sushma (2010), Reservation and Inclusive Growth: Theme Paper for 54th Member's Annual Conference, IIPA, New Delhi.



G. Durga Rao

Department of Public Policy and Public Administration

Central University of Jammu, Jammu

Semester: IV

Course Title: Issues in Governance (Core Course)

Course Code: PGPPA4C006T

Credit: 4

Course Objective:

The term governance has made an impressive career in a number of disciplines concerned with regulation, order and law. The word 'Governance' appears in diverse academic disciplines. The paper will familiarize the students with new frontiers and Emerging Areas in the discipline of Public Administration i.e. Public Private Partnership, Right to Service, Social Audit, Corporate Social Responsibility and Citizen Administration Interface. The paper will focus on the Accountability Reforms and Innovation in Administration.

UNIT-I: Governance and Ethics

- a) Ethical Foundations of Governance
- b) Significance of Ethical and Moral Values in Governance
- c) Codes and Norms of Ethics in India
- d) 2nd Administrative Reforms Commission

Unit-II: Probity in Governance

- a) Philosophical Basis of Governance and Probity
- b) Concept of Public Service
- c) Integrity, Impartiality and Dedication to Public Service

UNIT-III: Governance Reforms

- a) Transparency and Right to Information
- b) Ombudsman against Corruption (Lokpal and Lokayukta)
- c) Government Process Re-engineering

UNIT-IV: Governance Institutions & Mechanisms

- a) Regulatory Authorities
- b) NITI Ayog
- c) Public Grievances Redressal Mechanism
- d) Electronic Platforms for Receiving and Implementing Public Input

UNIT-V: Emerging Trends

- a) Citizens Administration Interface
- b) Right to Public Service
- d) Doorstep Delivery of Public Services

Select References:

- Anttiroikoet.al Eds. (2011) Innovations in Public Governance, IOS Press.
- Arora, R.K. and Rajni Goyal (2002) Indian Public Administration, Vishwa Prakashan, New Delhi
- Avasthi and Avasthi (2002) Indian Administration, Laxmi Narain Aggarwal: Agra
- Basu, D.D. (2000) Introduction to the Constitution of India, Wadhwa & Company: New Delhi
- Bevir Mark ed. (2010) The Sage Handbook of Governance, Thousan Oaks CA: Sage Publications
- Bhambri, C. P. (1973) Public Administration in India, Delhi, Vikas
- Government of India (1967) First Administrative Reform Commission Report, Ministry of Personnel, Public Grievances & Pensions, Department of Administrative Reforms and Public Grievances: New Delhi
- Government of India (2005) Second Administrative Reform Commission Report, Ministry of Personnel, Public Grievances & Pensions, Department of Administrative Reforms and Public Grievances: New Delhi
- Granville, Austin (1999) The Indian Constitution-Cornerstone of Nation, OUP: New Delhi
- Jain R.B.(1976) Contemporary Issues in Indian Administration, Delhi: Vishal
- Kashyap, Subash C. (2010) Indian Constitution: Conflicts and Controversies, Vitasta
- Maheshwari, S.R.(2004) Indian Administration, Orient Blackswan : Delhi
- Subrata K. Mitra (2006), Puzzles of India's Governance, Routledge, London.
- Subrata K. Mitra (2017), Politics in India, Routledge, London.

G. Dhangra Rao

Department of Public Policy and Public Administration
Central University of Jammu, Jammu

Semester: IV

Course Title: Urban Governance (Elective Course)

Course Code: PGPPA4E001T

Credit: 4

Course Objective:

The Globalization has great impact on the country like India, which increases the economic growth of the country, and because of this, we are seeing a growing urbanized India. Although, urbanization in India has been underpinned by the rapid growth in the economy especially from the last decade of the 20th Century, and there is transformation from rural economy, based on agriculture and its allied activities to the modern economy related to industrial activities. The negative impacts on the urban areas, by way of lack of basic facilities like infrastructure, drinking water, housing, transport etc are visible. Thus, this course aims to present the urbanization, and also gives particular attention to the emerging issues and challenges, associated with the urbanization process in India.

UNIT -I: Introduction

- a) Urban Governance – Concept and Principles
- b) Urbanization: Trends and Challenges
- c) Urban Policies and Strategies

UNIT - II: Urban Institutions

- a) Urban Local Bodies - Forms and Functions
- b) Municipal Finance Framework & Municipal Financial Management
- c) Recent Trends in Urban Governance: e-Governance

UNIT - III: Urban Issue areas and Programmes

- a) Urban Poverty: Concept and Trends
- b) Urban Slums and Urban Housing
- c) Urban Poverty Elevation Programmes and Institutional arrangement

UNIT - IV: Administration of Urban Services

- a) Administration of Development Programmes
- b) Water supply, Drainage, Sewerage, Sanitation, Electricity
- c) Urban Transportation and Urban Environment

UNIT - V: Accountability and Civic Engagement

- a) Accountability and Civic Engagement
- b) Urban Knowledge Management
- c) Urban Future and Challenges

Select References:

- Aziz Abdul (ed.), (1996), Decentralised Governance in Asian Countries, Sage New Delhi.
Baud, Isa S A, J De Wit (2009), New Forms of Urban Governance in India: Shifts, Models, Networks and Contestations, SAGE Publications. Bhattacharya ,Mohit (1976), Management of Urban Government in India, Uppal, New Delhi
Burns, Danny et. al. (1994), The Politics of Decentralisation: Revitalizing Local Democracy Macmillan, London,
Chaturvedi T.N. and Abhijit Datta (1984), Local Government, IIPA, (New Delhi).
Devas Nick (2004), Urban Governance Voice and Poverty in the Developing World, Routledge.
Maheshwari, S.R. (2003), Local Government in India, Lakshmi Narain Aggarwal, Agra.
Oakley Peter (1991), Projects with People: The Practice of Participation in Rural Development, I.L.O., Geneva.
Oakley Peter, et. Al (1984), Approaches to participation in Development, I.L.O., Geneva.
Pierre, Joñ (2011), The Politics of Urban Governance: Rethinking the Local State, Palgrave MacMillan.
Prasad, R N (2007), Urban Local Self-Government in India; With Reference to North-Eastern States, Mittal Publications. Rao, C. Nagaraja (2007), Accountability of Urban Local Governments in India, Atlantic, New Delhi
Sivaramakrishnan K.C., et. al. (1993), Urbanisation in India: Basic Services

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G. Durga Rao

Department of Public Policy and Public Administration
Central University of Jammu, Jammu

Semester: IV

Course Title: Human Rights Administration in India (Elective Course)

Course Cod: PGPPA4E002T

Credit: 4

Course Objective

Human rights are moral principles or norms that describe certain standards of human behaviour and are regularly protected as natural and legal rights in municipal and international law. They are commonly understood as inalienable, fundamental rights to which a person is inherently entitled simply because she or he is a human being and which are inherent in all human beings regardless of their nation, location, language, religion, ethnic origin or any other status. This helps the students to strengthen their understanding of Human Rights and various mechanisms for protection of Human Rights.

Unit I: Human Rights: Introduction

- a) Meaning, Nature, and Classification of Rights
- b) Magna Carta; British Bill of Rights;
- c) Universal Human Values; UN Charter; International Bill of Rights

Unit II: Constitutional Provisions in India

- a) Fundamental Rights and Directive Principles
- b) Provisions of Human rights in IPC and CRPC
- c) National Commission for Human Rights and State Human Rights Commission

Unit III: Human Rights and Commissions

- a) National Women Commission and National Commission for Protection of Children Rights
- b) National SC Commission, National ST Commission and National OBC Commission
- c) National Commission for Minorities

Unit IV: Human Rights Issues in India

- a) Identity based conflicts and Human Rights Violation: Adivasi, Dalit, and LGBTQ movements
- b) Human Rights Movements/ Activism and Role of Civil Society
- c) Right to Livelihood, Right to food security and Right to Education

Unit V: International Agencies for protection of Human Rights

- a) United Nations Organizations: UNESCO and UNICEF
- b) International Labor Organization (ILO)
- c) World Health Organization (WHO)

References

- Agarwal H.O. (2016) International law and human rights, Central Law Publication, Delhi
- Banerjee, Meenakshi Mohan (2013), On Social Justice and Human Rights in India: Selected Writings of Inder Mohan, Promilla & Co Publishers, New Delhi
- Gaur K D (2016) Textbook on Indian Penal Code , Universal Law Publishing, Delhi.
- Kumar Das Jatindra (2016) Human Rights Law and Practice, PHI ,Delhi
- NATIONAL HUMAN RIGHTS COMMISSION, Human Rights Education for Beginners, NHRC, New Delhi
- Sinha Manoj Kumar (2013) Implementation Of Basic Human Rights, Lexis Nexis, Delhi
- Sachdeva, D.R.(2002) – Social Welfare Administration, Kitab Mahal, New Delhi
- Annual Report of Ministry of Social Justice & Empowerment, Govt. of India.
- Appleby, Paul.H., Public Administration for a Welfare State, Indian Reprints Publishing company, (New Delhi), 1982.
- Basu, Durga Das., Introduction to the Constitution of India, Printice Hall of India Ltd., (New Delhi), 1992.
- Bhardwaj, A.N., Problems of Scheduled Castes and Scheduled Tribes in India, Light and Life Publications, (New Delhi), 1979.
- Berreman, D.Gerald., Caste and other Inequalities, Folklore Institute, (Meerut), 1979.
- Anil Saxena, Encyclopaedia of Social Welfare, (vol.I), SBS Publishers and distributors (Pvt. Ltd.), (New Delhi), 2010.
- Dubey, S.N., Administration of Social Welfare Programmes in India, Somaiya Publications, (Bombay), 1973.
- Goel, S.L., Social Welfare Administration : Organisational Infrastructure, Deep and Deep Publications, (New Delhi), 1988.

G. Dhanraj Rao

Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester: IV

Course Title: Public Sector Governance (Elective Course)

Course Code: PGPPA4E003T

Credit: 4

Course Objective

Public sector Governance drew on private sector ideas and practices in moving from traditional public administration to a public management approach. The language of corporate governance was transferred to the public sector as both an expression of that and through the need to revisit how to provide a corporate basis for transforming organizations in rapidly changing environments. Upon successful completion of this course, students should be able to have knowledge of concept of public sector governance, its policies, issues and reforms.

Unit I - Introduction

- a) Concept of Public Sector Governance
- b) Public Enterprise: Concept, Rationale and Objectives
- c) Organizational Forms in Public Sector
(Departmental Undertaking, Public Corporation, Government Company, Joint Stock Company)

Unit II - Public Sector Policies

- a) Industrial Policy of India
- b) New Economic Policy: Its impact on Public Sector
- c) Disinvestment Policy: Objectives, Methods and Machinery

Unit III - Performance of PSUs

- a) Role of Public Sector in Economic Development
- b) Performance of Central Public Sector Enterprises
- c) Organizing Public Sector Agencies: Challenges and Reflections

Unit IV - Reforms

- a) Public Sector Reforms - Liberalization, Privatization and Globalization
- b) NPM and Post-NPM (Memorandum of Understanding, downsizing/rightsizing, government reinvention, market-oriented reforms, contracting out)
- c) Public Private Partnerships

Unit V - Corporate Governance

- a) Corporate Governance: Meaning, Scope and Significance
- b) New Company Act, 2013
- c) Corporate Social Responsibility

References:

- Anthony Michael Bertelli, (2012). *The Political Economy of Public Sector Governance*. Cambridge University Press, Cambridge.
- Meredith Edwards et al. (2012). *Public Sector Governance in Australia*. The Australian National University E Press, ISBN:
- Per Lægreid and Koen Verhoest (Ed), (2010). *Governance of Public Sector Organizations: Proliferation, Autonomy and Performance*. Palgrave Macmillan, UK.
- Aras, G. & Crowther, (2010). *A Handbook of Corporate Governance and Social Responsibility*. Gower Publishing House, Ltd.
- Bhattacharya, Mohit (2013). *New Horizons of Public Administration*. Jawahar Publishers, New Delhi.
- Arguden, Yilmaz (2011). *Keys to Governance: Strategic Leadership for Quality of Life*. Macmillan, Hampshire.
- Jan-Erik Lane, (2000). *New Public Management: An Introduction*. Routledge, London.
- Sinha, C. (2007). *Public Sector Reforms in India*. Sage Publication India Ltd.

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Department of Public Policy and Public Administration
Central University of Jammu, Jammu
Semester -IV

Course Title: Local Governments in India (Interdisciplinary Course)

Course Code: PGPPA41002T

4 Credits

Course Objective

Decentralization is a widely used concept, and it is closely linked with democracy, development and good governance. Local government is one form of a decentralized system which is affected by the transfer of authority or responsibility for decision making, management or resources allocation from higher level of government to its subordinate units. This interdisciplinary course analyses the complexities of local governance, both rural and urban, in contemporary India. It discusses some of the lesser known aspects of the interface between panchayats and other institutions of local governance, whether district administration or parastatal agencies and civil society organizations.

UNIT - I: Introduction:

- a) Meaning, Nature, Scope and Significance of Local Government
- b) Evolution of Local Governments in India
- c) Community Development Programme
- d) Committees on Local Governance

UNIT - II: Decentralisation and Development

- a) Decentralisation, types and challenges
- b) Democratic Decentralisation in India
- c) Democratic Development - Rural Development
- d) Democratic Development - Urban Development

UNIT - III: Organization Structure:

- a) 73rd Constitutional Amendment Act
- b) 74th Constitutional Amendment Act
- c) Structures of Rural Local Government - Composition, Functions and Role of Gram Sabha, Gram Panchayat, Panchayat Samiti and Zila Parishad
- d) Structures of Urban Local Government - Composition, Functions and Role of Municipal Corporation, Municipal Council and Nagar Panchayat

UNIT - IV: Accountability and Control

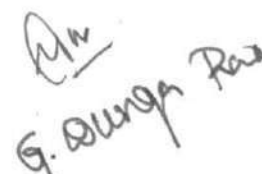
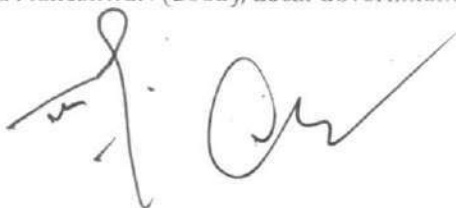
- a) Human Resource Management at Local level
- b) Finances of Local Governments
- c) Executive Control and Legislative Control
- d) Financial Control

UNIT - V: Issue Areas

- a) State and Local Government Relations
- b) Local Governments in the context of Globalization
- c) Problems and Challenges of Rural Local Governments
- d) Problems and Challenges of Urban Local Governments

References:

- A.S. Altekar (1958), *State and Government in Ancient India*, Motilal Banarsi Dass, Delhi.
- Abdul Aziz (ed.), (1996), *Decentralised Governance in Asian Countries*, Sage Publications, New Delhi.
- B.D.S. Bhadouria and V.P. Dubey (1989), *Panchayati Raj and Rural Development*, Commonwealth Publishers, New Delhi.
- B.S. Khanna, (1992), *Rural Development in South Asia Deep and Deep*, New Delhi.
- B.S. Khanna, (1999), *Rural Local Government in India and South Asia*, Deep and Deep Publication, New Delhi.
- Danny Burns, et. al. (1994), *The Politics of Decentralisation: Revitalising Local Democracy*, Macmillan, London.
- George Mathew (1994), *Panchayati Raj in India: From Legislation to Movement*, ISS, New Delhi.
- Jain L.C, et.al (1986), *Grass without Roots; Rural Development Under Government Auspices*, Sage, New Delhi
- K.C. Sivaramakrishanan, et. al. (1993), *Urbanisation in India: Basic Services and People's Participation*, ISS, New Delhi.
- M.A. Oommen (1995), *Devolution of Resources from the State to the Panchayati Institutions*, ISS, New Delhi.
- M.A. Oommen and Abhijit Datta (1995), *Panchayats and their Finance*, ISS, New Delhi.
- Mohit Bhattacharya (1976), *Management of Urban Government in India*: Uppal, New Delhi.
- Ramesh K. Arora and Rajni Goyal (1996), *Indian Public Administration* Vishwa Prakashan, New Delhi.
- S.R. Maheshwari (2003), *Local Government in India*, Lakshmi Narain Aggarwal.



Department of Public Policy and Public Administration
Central University of Jammu, Jammu
SEMESTER-IV

Course Title: Electronic Governance (Foundation Course)

Course Code: PGPPA4F002T

Credit: 4

Course Objective

E-Governance is a new concept and implies upgrading of the efficiency and effectiveness of the administrative machinery through the combination of ICT to deliver better, cost effective and speedy services to the citizen. Transition to electronic delivery of services in government not only involve changes to the systems, procedures and processes of relevant services but also affects the way in which the public and business community deals with the government. The aim of this course is to introduce the major discourses on e-governance with case studies for better understanding its implementation in India.

UNIT- I: Introduction to E-Governance

- a) Governance and Administrative Reforms
- b) Reinventing Government and New Public Management
- c) ICT and E-Governance

UNIT II Concepts and Models of E-Governance

- a) Government Process Re-engineering
- b) Models of E-Governance
- c) E-Governance Policy Framework

Unit III - E-Governance in India

- a) E-Readiness and NCAER's E-Readiness Index
- b) Digital Initiatives of Government of India
- c) NEGP 2.0: E-Kranti

Unit IV: Emerging Trends in E-Governance

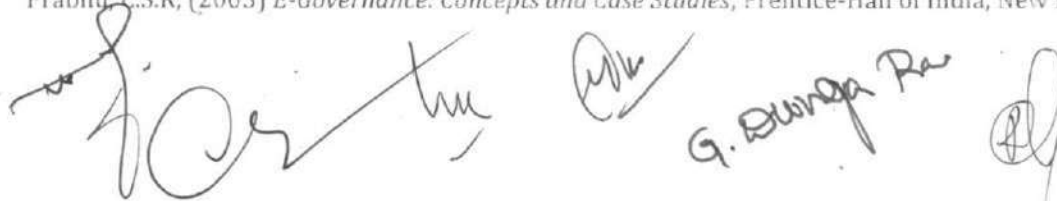
- a) Big Data and Open Government Data
- b) Cloud Computing and Cloud Applications
- c) M-Governance

Unit V: Challenges to E-Governance

- a) Digital Divide and Digital Inclusion
- b) E-Literacy and Capacity Building
- c) Privacy and Cyber Security

References:

- Bellamy, Christine, and John, A., Taylor, (1998), *Governing in the Information Age*, Buckingham, Open University Press.
- Bhatnagar, S.C. (2004) *E-Government – from Vision to Implementation: A practical guide with case studies*, Sage Publications, New Delhi.
- Bhatnagar, S.C. (2009) *Unlocking E-Government Potential: Concepts, cases and practical insights*, Sage Publications, New Delhi.
- Bouwman, Harry, and et.al., (2005), *Information and Communication Technology in Organisations*, Sage Publications, London.
- Heeks, R. (2006) *Implementing and Managing eGovernment: An international text*, Sage
- Marchionini, G., (1995), *Information Seeking in Electronic Environments*, New York, The Press Syndicate of the University of Cambridge, USA.
- Michael E. Milakovich, (2012), *digital governance - New Technologies for improving Public Service an Participation*, Routledge, Taylor and Francis group, New York.
- Pardhasārathi, Y. (et.al) (2009), *E-Governance and Indian Society: An Impact of Study*, Kanishka, New Delhi.
- Satyanarayana, J, (2004), *E-Government: The Science of the possible*, PHI Learning Pvt Ltd, New Delhi.
- Madon, S, (2009), *E-Governance for Development – A focus on Rural India*, Palgrave Macmillan, London.
- Mark Bevir, (2009), *Key Concepts in Governance*, Sage Publications, New Delhi,
- Mary Maureen Brown, Jack Rabin (ed.), *Electronic Government*, *Encyclopedia of Public Administration and Public Policy*, Marcel Dekker, 2003, pp 427-432.
- Osborne and Ted Gaebler, (1992,), *Reinventing Government: How the Entrepreneurial spirit is Transforming the Public Sector*, Reading, MA: Addison Wesley.
- Paul Gosling, (1997), *Government in Digital Age*, London, MacMillan Publication.,
- Prabhu, C.S.R, (2005) *E-Governance: Concepts and Case Studies*, Prentice-Hall of India, New Delhi.





जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया-सूचानी, बागला, जिला सांबा-181143 जम्मू, जम्मू एवं कश्मीर
Rahya- Suchani (Bagla), District Samba-181143, Jammu (J &K)
Ph.No. 01923-2649658 and website: www.cujammu.ac.in

Annexure - V

No. CUJ/Acad/II-14-26/2020/114

12th March, 2020

NOTIFICATION No. 23 /2020

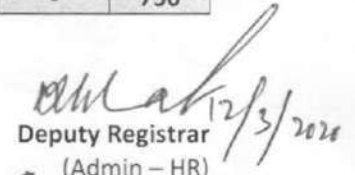
Sub: Course Scheme and Syllabus Notification of 2nd semester / Level 5 of B.Voc. (Banking and Financial Services) w.e.f. Academic session 2019-20

It is hereby notified for the information of all concerned that, on the recommendation of Head, Dept. of Human Resource Management and Behavioural Organisation and Dean, School of Business Studies, the Vice Chancellor in anticipation of Academic Council has approved the **Course Scheme and Syllabus of 2nd semester/ Level 5 of B. Voc. (Banking and Financial Services) w.e.f. Academic Session 2019-20.**

The approved Course Scheme and syllabus is as under:

Job Role: Dealer – BFSI

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
General Education Component						
UGBF2G001T	Legal and Regulatory Aspects of Banking	4	25	25	50	100
UGBF2G002T	Indian Financial System	4	25	25	50	100
UGBF2G003T	Managerial Economics	4	25	25	50	100
Skill Component						
PGBVF2S001T	Basics of Capital Markets	4	-	-	-	100
PGBVF2S002T	Banking Operations Simulation Lab/s	2	-	-	-	50
PGBVF2S003T	On – Job – Training (OJT) as per Qualification Pack(s)	12	-	-	-	300
Total		30	-	-	-	750


Deputy Registrar
(Admin – HR)
12/3/2020

Encl: Syllabus of Level – 5 / 2nd Semester of B. Voc. (Banking and Financial Management)

To:

Head, Department of HRM&OB
Nodal Officer, B.Voc Programs
Coordinator, B.Voc (Banking and Financial Services)

Copy to:

Controller of Examinations

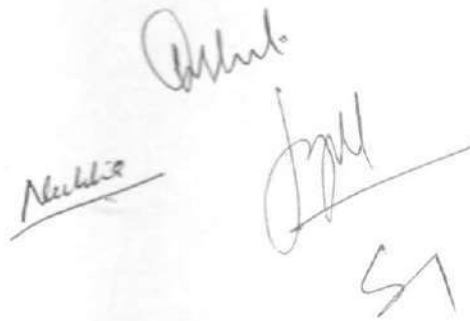
**Course Structure and Syllabi of Bachelor of Vocational (Banking and Financial Services)
for the academic year 2019-20, 2020-21**

LEVEL-5/SEMESTER-II

Job Role: Dealer- BFSI

Course Code	Course Title/Education Component	Credit	CIA	MSE	ESE	Max. Marks
General Education Component						
	Legal and Regulatory Aspects of Banking	4	25	25	50	100
	Indian Financial System	4	25	25	50	100
	Managerial Economics	4	25	25	50	100
Skill Component						
	Basics of Capital Markets	4	-	-	-	100
	Banking Operations Simulation Lab/s	2	-	-	-	50
	On-Job-Training (OJT) as per Qualification Pack(s)	12	-	-	-	300

Note: Each student shall study 30 credits of General and Skill Education Components as per NSQF scheme. Each general education paper carries 100 marks except skill component.



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**Syllabus of B.Voc (Banking and Financial Services)
for the academic year 2019-20, 2020-21**

Course No. **UG BVF2G001T**
Course Title: **Legal and Regulatory Aspects of Banking**
Duration of Examination: **3 Hrs**

Contact Hrs/Week: **4 Hrs**
Credit: **04**
Maximum Marks: **100**

Course Objective:

The main objective of this course is to familiarize the students with Banking laws and practice and to assist them in understanding corporate laws affecting the operations of a business enterprise.

UNIT I

Legal Framework for Banking in India; RBI Act, 1934; Banking Regulation Act, 1949; Role of RBI; Licensing of Banking Companies; Branch Licensing; Board of Directors; Chairman of Banking Company; Acceptance of Deposits; Nomination; Loans and Advances; Regulation of Interest Rate; Regulation of Payment Systems; Internet Banking Guidelines; Regulation of Money Market Instruments; Banking Ombudsman; Maintenance of CRR, SLR; Acquisition of Undertakings; Amalgamation of Banks; Winding up of Banks; Public Sector Banks and Co-operative Banks SBI and its Subsidiaries; Regional Rural Banks; Nationalized Banks; Recent Legislative Changes in RBI Act

UNIT II

Legal Aspects Of Banking Operations: Different Types of Borrowers, Types of Credit Facilities Cash Credit, Overdraft, Demand Loans, Term Loans, Bill Finance Secured and Unsecured Loans, Definition of Contract of Indemnity; Features of Indemnity Contract & Guarantee; Scope and Application of Indemnity Contracts to Banks; Letters of Credit General Considerations of Letters of credit; Methods of Payment Laws Relating to Bill Finance Class of Bills and Laws Governing Bills; Classification of Bills; Categories of Bill Finance; Bill Finance and Legal Position of Banker Various Types of Securities Types of Securities; Escrow Arrangements.

UNIT III

Banking related laws : Recovery of Debts due to Banks and Financial Institutions Act, 1993(DRT Act) Enforcement process Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest Act (SARFAESI) Provisions Banking Ombudsmen Scheme Purpose; Extent; Definitions; The Insolvency and Bankruptcy Code, 2016, Negotiable Instruments Act, 1881 Applicability; Definition; Important Provisions Payment & Settlements Systems Act, 2007 Applicability; Definition; Important Provisions.

UNIT IV

Commercial laws with reference to banking operations: Indian Contract Act, 1872 Meaning and essentials of contract; Contract of Indemnity & Rights of Indemnity Holder; Contract of Guarantee; Contract of Bailment; Contract of Pledge; Contract of Agency The Sale of Goods Act, 1930 Features; Sale & Agreement to Sell; Conditions and Warranties; Memorandum and Articles of Association; Doctrine of Ultra Vires, Constructive Notice, Indoor Management; Prospectus; Directors; Winding up of Companies Foreign Exchange Management Act, 1999 The Prevention of Money Laundering Act, 2002 Obligations; Information Technology Act, 2000 Definitions; Electronic Governance; Certifying Authorities; Digital Signature Certificates; Penalties; Appeal.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings:

- ❖ IIBF, "Legal & Regulatory Aspects Of Banking", 2nd Edition, McMillian Publishers.

Alankar

Alankar *Alankar* *Alankar*

**Syllabus of B.Voc (Banking and Financial Services)
for the academic year 2019-20, 2020-21**

Course No. *UG BV F2 G 002 T*
Course Title: Indian Financial System
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

The objective of this course is to enhance the conceptual understanding about various aspects of Indian financial system and to acquaint them about mechanics of various financial instruments, financial services and institutions.

UNIT

Financial Systems: Significance, Functions and structure of financial system, Indian financial system, Financial Dualism. Financial instruments: Debentures, Shares, ADRs, GDRs and ECBs

UNIT II

Money Market: Meaning and Functions, Constituents of Money Market: Call Money Market, Treasury Bill Market, Certificate of Deposit Market, Commercial Bills Market and Commercial Paper Market. Method of Auction of Treasury bills.

UNIT III

Capital Market : Concept; Structure and Functions of Capital Market; Primary Market its role & Functions, Methods of selling securities in Primary Market, IPO Process, SEBI Guidelines for different types of issues, procedures for Pricing of new issues, Allotment of shares, Secondary Market-Role.

UNIT IV

Financial Institutions: Introduction to Commercial Banking, Non-Banking Financial Companies (NBFCs) : Concept, Types, Role and functions, RRBs : Role & Functions. Reserve Bank of India – Role & Functions. Development Financial Institutions: Types, Role, functions,

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Pathak, Bharti V. The Indian Financial System, 2nd Edition; Pearson Education, India
- ❖ Khan, M. Y. Indian Financial System; Tata McGraw Hill New Delhi
- ❖ Bhole, L. M. Indian Financial System; Tata McGraw Hill New Delhi
- ❖ Bhole, L. M. Financial Institutions & Markets Structure, Growth & Innovations; Tata McGraw Hill New Delhi
- ❖ Varshney, P.N. Indian Financial System Sultan Chand & Sons, New Delhi

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**Syllabus of B.Voc (Banking and Financial Services)
for the academic year 2019-20, 2020-21**

Course No. **UGBVF2 C003T**
Course Title: **Managerial Economics**
Duration of Examination: **3Hres**

Contact Hrs/Week: **4 Hrs**
Credit: **04**
Maximum Marks: **100**

Course Objective:

To acquaint the participants with concepts and techniques used in Micro-Economic Theory and to enable them to apply this knowledge in business decision making.

UNIT I

Managerial Economics: Meaning nature and scope of managerial economics Role of Micro and Macro-Economic Analysis in formulation of Business Policies .Demand Analysis; Demand and Law of Demand, Determinants of demand on demand functions, Change in demand elasticity of demand degrees measurement of price elasticity of demand –total expenditure method proportionate method point elasticity method and Law of Supply.

UNIT II

Markets: meaning characteristics, types of markets perfect and Imperfect , Utility and Indifference curve approaches meaning , Law of Diminishing marginal rate of substitution properties of indifference curve

UNIT III

Price line consumer's equilibrium conditions of consumer's equilibrium income substitution and price effect . Production function, Short run and long run, cost and output analysis; General Theory of price determination, role of time elements in price determination.

UNIT IV

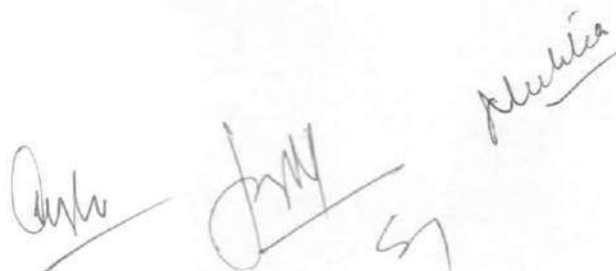
National Income, GDP & Other Measures of National Income. Price Indices- CPI/PPI., Concept of PPP. Aggregate Demand and Supply. Inflation: Concept, Theories and Application.
Fiscal and Monetary Policies -Conceptual, Business Fluctuations and Trade Cycles Theories and its Relevance in Business Decisions

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practioner's view will be incorporated.

Reference Books and Suggested reading

- ❖ Buamol William .J & Alan.S.Blinder, Microeconomics Principles & Policy, Thomson South Western
- ❖ Mankiw.N.Gregory, Principles Of Microeconomics ,Cengage Learning ,South Western
- ❖ Pindyck Robert.S, Rubinfeld & Mehta, Microeconomics ,Pearson
- ❖ Mankiw.N.Gregory, Economics Principles and Applications ,Cengage Learning
- ❖ Samuelson .Pual A. & William B.Nordhaus, Economics ,Tata Mac Graw Hill
- ❖ Boyes William And Micheal Melvin ,Text Book Of Economics ,Biztantra
- ❖ Samuelson William F.& Stephan ,G.Marks ,Managerial Economics ,Wiley



**Syllabus of B.Voc (Banking and Financial Services)
for the academic year 2019-20, 2020-21**

Course No. **PG BVF25001T**
Course Title: Basics of Capital Markets
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 04
Maximum Marks: 100

Course Objective:

The objective of this course is to enhance the understanding about basics of capital markets and to acquaint the learners about various aspects of stock market operations

UNIT I

Basics of Equity markets: Understand Stock markets & market instruments, Role of stock markets in the economy, Importance of regulator (SEBI). Overview of primary and secondary markets, Difference between trading and demat accounts, Role of brokers and process of membership in equity markets

UNIT II

Dematerialization Procedure: Know Your Customer(KYC), documents required for KYC, Form Filling – manual & Electronic, Understanding various forms – trading a/c and demat a/c, Rules and regulations for Demat accounts, Dematerialization and re-materialization, rules and regulations governing Demat accounts, Demat slip, Transfer of securities, Importance of POA, Settlement of market trades, client positions and creating reports, method of creating reports interpret report..

UNIT III

Risks in Equity Markets and Introduction to Trading: Risk and return in equity markets, Risk Mitigation, human error risk and ways of resolving it. Development of client portfolio and advising on changes, review of client portfolios, diversified portfolio, Trading terminal , Understand trading terminal, Creating market watch, order book, Punching orders on the terminal.

UNIT IV

Trading in Stock Markets: Major Indices in India, Technical analysis and fundamental analysis, Clearing and settlement procedures and pay-in payout obligations, Day Trading, Bracket Order, Cover Order, Short-Sell, Margin Trading, Derivatives trading, Understand role of the clearing house and its members, Method of payin and payout obligations.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practioner's view will be incorporated.

Reference Books and Suggested reading

- ❖ Stock Exchanges and Investment – V. Raghunathan
- ❖ Financial Management – R. P. Rastogi
- ❖ OTC Exchange of India – Nipum S. Mehta.
- ❖ Trading on-line – Alephs Patel
- ❖ India Security Market – O. P.Gupta

Mehta

Patel *Joshi*

Syllabus of B.Voc (Banking and Financial Services)
for the academic year 2019-20, 2020-21

Course No. PG BVF25002T
Course Title: Banking Operations Simulation Lab/s
Duration of Examination: 3 Hrs

Contact Hrs/Week: 4 Hrs
Credit: 02
Maximum Marks: 100

Course Objective:

The objective of this course is to enhance the practical orientation of learners about banking operations with specific focus on various aspects of stock market operations

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**Syllabus of B.Voc (Banking and Financial Services)
for the academic year 2019-20, 2020-21**

Course No. *PGBVF25003T*
Credit: 12

Course Title: On-Job-Training (OJT)
Maximum Marks: 300

Course Objective:

The students shall undergo On-Job-Training (OJT) with a view to achieving maximum integration between theory and practice. The students shall expose themselves to all important aspects as per qualification pack(s) learned at Level 5 with special emphasis on the Job Role opted by learner.

Content:

At the end of 2nd semester, students will have to undergo OJT of 6 to 7 weeks with any Banking/Financial Organisation by taking up a project. The guidelines and detailed instructions to complete the PROJECT will be given by the mentor allocated by the Head of Department.

Evaluation:

The performance of the students shall be evaluated on the basis of Project Report/Presentation /Viva Voce by a panel of examiner(s) including practicing manager /faculty member nominated by Head of Department as per the distribution of marks given below:

Project Report	:	100
Report Presentation	:	100
Viva Voce	:	100
Total	:	300

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जम्मू केंद्रीय विश्वविद्यालय Central University of Jammu

राया-सूचानी, बागला, जिला सांबा-181143 जम्मू, जम्मू एवं कश्मीर
Rahya - Suchani (Bagla), District Samba - 181143, Jammu (J&K)
Ph. No. 01923-2649658 and website: www.cujammu.ac.in

No. 4-13/CUJ/Reg/2020/100

05th March, 2020

NOTIFICATION No. 17 /2020

Sub: Course Scheme and Syllabus Notification of 8th semester of Integrated M.Sc. in Botany w.e.f. Academic session 2019 - 20 - Reg.

Ref: Notification No. 82 of 2018 dated 26.12.2018

It is hereby notified for the information of all concerned that on the recommendation of the Board of Studies of Department of Botany and Dean, School of Life Sciences, the Vice Chancellor in anticipation of Academic Council has approved the following **Course Scheme and Syllabus** of 8th semester of **Integrated M.Sc. in Botany** w.e.f. Academic Session 2019 - 20.

Semester - VIII

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core Courses						
ICBOT8C001T	Applied Ecology	4	25	25	50	100
ICBOT8C002T	Genetics and Cytogenetics	4	25	25	50	100
ICBOT8C003T	Molecular Plant Physiology	4	25	25	50	100
ICBOT8C004T	Applied Pteridology and Gymnospermology	4	25	25	50	100
ICBOT8C001L	Applied Ecology Lab	2	25	-	25	50
ICBOT8C002L	Genetics and Cytogenetics Lab	2	25	-	25	50
ICBOT8C003L	Molecular Plant Physiology Lab	2	25	-	25	50
ICBOT8C004L	Applied Pteridology and Gymnospermology Lab	2	25	-	25	50
Total		24	-	-	-	600

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Deputy Registrar
(Admin - HR)

Encl: Syllabus of 8th semester of Integrated M.Sc. in Botany

To:
Head, Department of Botany

Copy to:
Controller of Examinations

Semester – VIII**Course Title: Applied Ecology**

Assessment	
Maximum marks	100
Continuous Internal Assessment (CIA)	25
Mid Semester Exam (MSE)	25
End Semester Exam (ESE)	50
Passing Marks	50

Course Objectives

The course provides student with a thorough understanding and appreciation of ecosystems. The biotic and abiotic components; interactions; physical drivers and remote sensing that define major ecosystem types are described. It is imperative to have a firm grasp on the applicability of general ecological concepts (already dealt in IV sem).

Theory**Unit 1: Concept and Components of Applied Ecology**

Introduction; utilization of ecological principles in relation to biotic and abiotic factors; natural systems versus anthropogenically influenced systems; effects of different land use changes on hydrological, chemical and biological processes in air, soil and water; Anthropogenic threats to aquatic ecosystems and associated hydro-morphological changes (construction of dams and dikes; drainage of land); current environmental issues; global carbon budget and cycling; waste and climate change.

Unit 2: Ecotoxicology and Ecological Restoration

Basics of ecotoxicology- sources and fate of toxicants; their routes of exposure, bioavailability, dose-response, biomarkers, risk assessment and biomagnifications; regulation, and monitoring of pollutants; recent developments in bioremediation, their advantages and disadvantages; ecological restoration of degraded ecosystems- methods and strategies for terrestrial and aquatic ecosystems; restoration of biological diversity- Augmentation by reintroduction and introduction of species.

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Unit 3: Remote Sensing and Geographic Information System

Principles and concepts; spectral characteristic and reflectance of earth's surface features (rocks, soil, vegetation, water) in different wavelength regions of electromagnetic spectrum; Application of remote sensing and GIS in ecology- monitoring and natural resource management (vegetation mapping and forest resources management).

Unit 4: Ecological modelling

Fundamentals of modelling, different models, statistical computing; skills and resources, process of formulating models of natural systems and confronting them with data; Introduction to modelling platforms- R modelling platform; case studies using current approaches for building, fitting and application of models.

Unit 5: Society and Ecology

Sustainable development- goals, targets and challenges (energy, carbon and climate); Ecological literacy for the development of sustainable society with emphasis on population policy, carrying capacity and eco-footprint; Sustainable and organic agriculture; farm as an ecosystem- pest control, integrated crop and livestock production, and marketing systems; Fundamental concepts and strategies of industrial ecology- Material substitution and De-materialization (reuse and recycling).

Applied Ecology Lab

ICB0T8C001L

Assessment	
Max. Marks	50
Continuous Internal Assessment (CIA)	25
End Semester Exam (ESE)	25
Passing Marks	25

Practicals

1. Study of forest vegetation and structure by applying suitable sampling methods and vegetation indices.
2. Quantification of the soil carbon content using titration methods.
3. Quantification of major nutrients (Nitrogen and Phosphorus) of soil by titration.

Page 3 of 14
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4. To determine the soil moisture content on a dry weight basis. To measure the compactness and porosity of different soils (agricultural land, barren land or degraded compact soils).
5. To analyze the inorganic and organic contaminants from soil or water system for toxicity study.
6. To study and calculate of exposure risk of pollutants (air/water/soil) to human health using data from clinical centres.
7. To study the enrichment and isolation of bacteria that degrade 2,4-Dichlorophenoxyacetic acid.
8. To demonstrate the ability of a soil bacterial community to adapt to imposed metal stress.
9. To detect *E. coli* in water by the most probable number (MPN) method.
10. To determine the biodegradation rate of a synthetic phenol or other phenolic compounds.
11. To demonstrate, introduction and installation of R software platform.
12. To demonstrate hands on R software, data entry, basic plotting and basic calculation.
13. Practical modelling exercises as per theory classes.
14. Demonstration and hand on remote sensing sensors; data extraction and data processing.
15. Remote sensing imagery resources and image processing and interpretation.
16. Analysis of RS and GIS data and interpreting the data for modelling applications.

SUGGESTED READINGS:

1. Singh JS, Singh SP, Gupta SR (2014) Ecology Environmental Science and Conservation, S Chand & Co. New Delhi.
2. Barbour MG, Burk JH, Pitts WD (1987) 2nd Edition Terrestrial Plant Ecology, The Benzamin/Cummings Publishing Company, San Francisco.
3. Omasa K, Nouchi I, De Kok LJ (2005) Plant responses to air pollution and global change, Springer Japan, Tokyo.
4. Gurjar BR, Molina T, Ojha CSP (2010) Air Pollution Health and Environmental Impacts, CRC Press, Boca Raton, U.S.A.

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5. Singh JS (1993) Restoration of degraded land: concepts & strategies. Rastogi Publications, Meerut.
6. Smith RL (2001) Ecology and Field Biology, 6th edition. Benjamin Cummings.
7. Soetaert K and Herman PMJ (2009) A Practical Guide to Ecological Modelling. Springer Publication.
8. Sven Erik Jorgensen and Brian D Fath (2011) Fundamentals of Ecological Modelling Academic Press. Elsevier.
9. Michael H, PhD, Dong (2014) An Introduction to Environmental Toxicology, 3rd Edition, Create space Independent Pub.
10. Basudeb Bhatta (2011) Remote Sensing and GIS, Oxford University Press, 2nd edition.
11. Lillesand, Kiefer and Chipman (2011) Remote Sensing and Image Interpretation, Wiley, Sixth edition.

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Semester – VIII**Course: Genetics and Cytogenetics**

Assessment	
Maximum marks	100
Continuous Internal Assessment (CIA)	25
Mid Semester Exam (MSE)	25
End Semester Exam (ESE)	50
Passing Marks	50

Course objectives

The course intends to provide the students with the detailed knowledge of applications of genetics and cytogenetics in fields like plant breeding, population genetics, evolutionary genetics and taxonomy.

Unit 1: Fungal Genetics

Introduction; Mutants and wild types- Isolation and characterisation of different mutants (complementation and functional allelism); functional mutants (auxotrophs, conditional lethals, resistance mutants, reverse mutants); Parasexual cycle - ~~Parasexual cycle~~, heterokaryosis, haploidisation, mitotic crossover and recombination, genetic analysis; Meiotic recombination - methods of analysis, linkage and tetrad analysis, gene mapping, gene conversion; Extra-chromosomal elements - Mitochondrial genome and plasmids, 2-micron plasmid, killer plasmid and linear plasmid; Epigenetic gene silencing in filamentous fungi - RIP, MIP, Quelling, Heterothallism and mating type switch

Unit II: Eukaryotic Genome

Structure, organization evolution of plant genome; recombination- Molecular mechanism, linkage and crossing over; genetic and molecular markers, construction of linkage maps; Physical mapping of genes; correlation of genetic and physical maps; QTL mapping; concept of GWAS. Plant Genome Projects-History, organization and goals; case studies (*Arabidopsis thaliana*, *Oryza sativa* and *Cicer arietinum*); Indian scenario.

Unit III: Transposable Genetic Elements

Discovery; transposable elements in bacteria (IS, composite and non-composite Tn), transposable elements in Yeast and maize; host cell interaction in the regulation of

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transposition. Role of transposons in plant genetic and epigenetic regulation, and speciation; gene creation; evolutionary significance of transposable elements.

Unit IV: Chromosome- physical structure, numerical and structural changes

Chromosome architecture – Linear differentiation; structure and role of centromere and telomere; unique and repetitive DNA; euchromatin and heterochromatin; banding patterns; karyotype evolution; DNA content and C-value paradox; transmission and characterization of mono-and trisomics and their use in chromosome mapping of diploid and polyploid species; breeding behaviour and genetics of complex translocation heterozygotes, translocation tester sets, Robertsonian translocations; breeding behaviour and genetics of inversion heterozygotes; production, characterization and utility of alien addition and substitution lines.

Unit V: Modern techniques in genetics and cytogenetics

Brief idea about application of- Chromosome banding; fluorescence in-situ hybridization (FISH); Genomic in-situ Hybridization (GISH); multicolor genomic in-situ hybridization (McGISH); primed in-situ (PRINS) DNA labeling; fiber-FISH; flow cytometry (Determination of nuclear DNA content, ploidy and genome size); chromosome microdissection and utilization of micro-isolated DNA; three-dimensional, live-cell imaging of chromatin dynamics in plant nuclei using chromatin tagging systems; chromatin immunoprecipitation for detecting epigenetic marks on plant nucleosomes; image analysis of DNA fiber and nucleus in plants.

SUGGESTED READINGS:

1. Swanson CP, Merz T, and Young WJ, (1967), Cytogenetics, Prentice Hall of India, Pvt. Ltd.
2. Russel PJ, (1998), Genetics, Benjamin/Cummings Publishing Co, Inc.
3. Sinnott EW, Dunn LC and Dobzhansky T (1958); Principles of Genetics, Kugakusha Co; Ltd.
4. Snustad DP and Simmons MJ (2000); Principles of Genetics. John Wiley & Sons. NY.
5. Klug and Cummings (2012) Concept of Genetics, 10th Edn; Pearson publications.
6. Acquaah G (2007) Principles of Plant Genetics and Breeding; Blackwell Publishing Ltd; USA.
7. Allard RW (1999) Principles of Plant Breeding (2nd Edition); John Wiley and Sons.
8. Hartl DL and Jones EW (2007) Genetics – Analysis of Genes and Genomes; 7th edition; Jones and Barlett publishers.

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9. Hartwell LH, Hood L, Goldberg ML, Reynolds AE, Silver LM, Veres RC (2006) Genetics – From Genes to Genomes; 3rd edition; McGraw Hill.
10. Lewin B (2008) Genes IX; Jones and Barlett Publishers.
11. Singh RJ (2002) Plant Cytogenetics; 2nd edition; CRC Press.
12. Smartt J and Simmonds NW (1995); Evolution of Crop Plants (2nd Edition) Longman.
13. Strickberger MW (2008) Genetics; 3rd Edition; Pearson (Prentice Hall).
14. Weising K, Nybom H, Wolff K and Kahl G (2005) DNA Fingerprinting in Plants: Principles; Methods and Applications; 2nd ed; Taylor and Francis Group; Boca Raton.
15. JRS Fincham. (1979). Fungal Genetics. Botanical Monographs Vol 4. University of California Press.

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Genetics and Cytogenetics Lab

Practicals

Assessment	
Max; Mark	50
Continuous Internal Assessment (CIA)	25
End Semester Exam (ESE)	25
Passing Marks	25

Allium

1. To study of mitotic chromosomes of *Allium cepa*, ~~*Avena sativum*~~, *Hordeum vulgare* by squash technique - Pre-treatment; Fixation and Staining of Chromosomes
2. To study meiotic chromosomes of *Phlox drummondii*/ *Allium cepa*/ *Tradescantia* sp., *Delphinium* sp., *Aloe* sp.
3. Karyotype analysis and preparation of idiograms.
4. Analysis of molecular polymorphism in parental lines and derived mapping population using different types of molecular markers.
5. Construction of a linkage map using available data.
6. To demonstrate the effect of polyploidy on plant phenotype, meiosis, pollen and seed fertility and fruit set.
7. To study the effect of mono and trisomy on fertility and meiotic behaviour.
8. To study the effect of translocation heterozygosity on chromosome behaviour, pollen and seed fertility.
9. To study the meiosis of complex translocation heterozygotes.
10. Experiments based on the chapter 5.

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Semester – VIII**Course: Molecular Plant Physiology**

Assessment	
Maximum marks	100
Continuous Internal Assessment (CIA)	25
Mid Semester Exam (MSE)	25
End Semester Exam (ESE)	50
Passing Marks	50

Course objectives

The course deals with details of plant developmental, sensory and stress physiology, and secondary metabolism, signal transduction; programmed cell death and defense.

Theory**Unit 1: Developmental Physiology**

Stages of fruit development and their regulation; biochemical and related events during fruit ripening in climacteric and non-climacteric fruits; physiology and biochemistry of fruit abscission; post-harvest changes; production of transgenic fruits; hormonal regulation of seed development; events associated with seed maturation- factors regulating seed dormancy; mechanisms of mobilization of food reserves during seed germination.

Unit 2: Sensory physiology and Secondary metabolism

Biochemical and biophysical mechanisms of thigmotropism- electric self-defence, taste, light; explosion, sleeping and rhythms; stimuli that trigger rapid movements- movements based on mechanical forces, mobility triggered by sense of touch, taste and electricity; motors driving movements in the living world, actin-myosin motors; photosensing- chemistry of excitability; neurotransmitters in plants; natural products (secondary metabolites)- their range and eco-physiological functions; overview of terpenoidal, alkaloidal, and phenolic metabolites and their biosynthesis.

Unit 3: Sensory Photobiology and Signal Transduction

Cryptochromes and phototropins- Structure, function and mechanisms of action; stomatal movement- scotomorphogenesis and photomorphogenesis; specific signalling mechanisms and their regulation- simple and hybrid type of two-component sensor-regulator system in

M. S. Mani *S. S. Sankar* *S. S. Sankar* *S. S. Sankar* *S. S. Sankar* *S. S. Sankar* *S. S. Sankar*

bacteria and plants (examples of chemotaxis, osmosensing, ethylene and cytokinin signaling); quorum sensing; gasotransmitters.

Unit 4: Stress Physiology

Introduction to stress; plant responses to biotic and abiotic stresses; mechanisms of stress tolerance- drought, salinity, metal toxicity, freezing and heat stress; nitrosative and oxidative stress – effects and causes; reactive oxygen species metabolism; nitric oxide (NO) biosynthesis and metabolism; NO-mediated signalling; markers; antioxidant mechanisms.

Unit 5: Programmed cell death (PCD) and defense

Concept of PCD and its types in plants during vegetative and reproductive stages; developmental and stress-induced PCD; Plant, leaf and flower senescence and their characteristics; altered metabolism during senescence and its regulation; hormonal modulations; biochemical mechanisms of plants chemical war against other plants and animals; plant responses to herbivory; defense mechanisms; induced phytochemical responses.

Molecular Plant Physiology Lab

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Assessment	
Max; Mark	50
Continuous Internal Assessment (CIA)	25
End Semester Exam (ESE)	25
Passing Marks	25

Practicals

1. To study the effect on different chemicals/phytohormone/stress on seed germination.
2. To study the effect of light on seed germination.
3. Demonstration of fruit ripening in climacteric and non-climacteric fruits.
4. Chlorophyll estimation of leaves (of different age) using spectrophotometric methods.
5. Demonstration of plant movements.
6. Extraction of metabolites from plant tissue and their qualitative analysis using TLC.
7. Demonstration of chemicals/phytohormone on stress alleviation.

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8. Study of the effect of wind velocity and light on the rate of transpiration in excised twig/leaf.
9. Demonstration of cell membrane damage during stress conditions.
10. To study ROS generation during development and stress conditions.
11. To study the effect of different concentrations of IAA on coleoptile elongation (IAA Bioassay).

SUGGESTED READINGS:

1. Ainsworth C (2006) Flowering and its Manipulation Annual Plant Reviews, Vol. 20 Blackwell Publishing. Oxford. U.K.
2. Davies P J. (2004) Plant Hormones: Biosynthesis, Signal Transduction, Action. 3rd Edition. Kluwer Academic Publisher. Dordrecht. The Netherlands.
3. Hopkins. G.W and Huner. N.P.A. (2008) Introduction to Plant Physiology. 4thEdn Wiley and Sons. Inc. New York. U.S.A.
4. Jordan BR. (2006) The Molecular Biology and Biotechnology of Flowering. 2nd Edition. CAB International, Oxfordshire. U.K.
5. Nelson D.L. and Cox. MM (2013). Lehninger-Principles of Biochemistry. Worth Publishers Inc. New York. U.S.A.
6. Salisbury FB and Ross CW (1992). Plant Physiology, 4thEdn. Wadsworth Publishing Co. California. U.S.A.
7. Taiz L and Zeiger E. (2006) Plant Physiology, 4th Edition, Sinauer Associates Inc. Publishers, Massachusetts, U.S.A.
8. Taiz. L. Zeiger. E. Moller IM and Murphy A (2015). Plant Physiology and Development, Sinauer Associates Inc. U.S.A. 6th edition.

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Semester – VIII

Course Title: Applied Pteridology and Gymnospermology

Assessment	
Maximum marks	100
Continuous Internal Assessment (CIA)	25
Mid Semester Exam (MSE)	25
End Semester Exam (ESE)	50
Passing Marks	50

Course objectives: The objective of the course is to give detailed knowledge of distribution, morphology, anatomy, cytology and reproductive biology of some important families of Pteridophytes and Gymnosperms. Students will also be acquainted with experimental studies in ferns and gymnosperms.

Theory

Unit 1 Pteridophytes

Diversity and distribution of Pteridophytes in India, their Phenology and habitat specificity ⁱⁿ and western Himalaya. Important concepts and their significance in plant evolution. Range of structure and reproduction in Lepidodendrales, Calamitales, Ophioglossales, Marattiales, Osmundales, Filicales and Salviniiales.

Unit 2 Advances studies in Pteridophytes

Gametophyte as a model for biotechnological studies; methods of mass multiplication— *in vitro* gametophyte development, gametophyte explant culture, regeneration in clone gametophytes; propagation of sporophytes *in-vitro* conditions, acclimatization and transplantation; traditional uses of ferns in pharmaceuticals— Secondary metabolites of ferns, types, composition and their therapeutically/medicinal role; fern conservation- ex situ storage of spore, gametophyte and sporophyte, *in-vitro* culture, and cryopreservation; genetic marker for fern diversity research; non-specific markers and microsatellites; *Ceratopteris richardii* as a model system of physiological control of sex expression.

Unit 3 Gymnosperms

Diversity and distribution of living gymnosperms in India; range of structure and reproduction in Cordiales, Coniferales, Taxales, Ginkgoales, Podocarpaceles and Welwitschiales.

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Unit 4 Advanced studies in Gymnosperms

In vitro studies on gymnosperms using vegetative tissues, organs, microspores and male gametophytes and their significance in conservation and silviculture. Biotechnological approaches—somatic embryogenesis, genetic transformation, protoplast culture and micropropagation; phytochemistry of gymnosperms— secondary metabolites, medicinal value and drugs.

Unit 5 Applied aspects of Pteridophytes and Gymnosperms

Role of ferns in environmental clean-up; removal of contaminants by ferns in soil and water; organic and inorganic contaminants. Environmental biotechnology: role in ecotoxicology and bioremediation in ferns. Ferns in horticulture- significance and different practices; role of climatic and other factors. Ecological role of gymnosperms on regional climate, soil, and vegetation; gymnosperms in horticulture— significance and different practices; role of climatic and other factors. Genetic marker for gymnosperms diversity; research non-specific markers and microsatellites.

Practicals

Assessment	
Max; Mark	50
Continuous Internal Assessment (CIA)	25
End Semester Exam (ESE)	25
Passing Marks	25

1. Study of external morphology of vegetative and reproductive structures of *Ophioglossum*, *Dryopteris*, *Adiantum*, *Asplenium*, *Cheilanthes*, *Salvinia*, *Azolla* etc.
2. Study of soral structure, spores' types, their viability and germination.
3. Field visits to local areas to study the pteridophyte diversity, habitat specificity and economic importance.
4. Study of secondary metabolites of ferns and their use in medicines.
5. In vitro study of pteridophyte spores or plant to propagate the plant.

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6. Study of external and internal morphology of vegetative and reproductive structures of living gymnosperms (*Gingko*, *Podocarpus*, *Taxodium*, *Araucaria*).
7. Study of pollen grains of gymnosperms, their viability and attempt germination in different media.
8. Field visits to study the diversity and habitat specificity of gymnosperms.
9. Practical based on in vitro studies of gymnosperms.
10. Study of nutritional and medicinal value of gymnosperms.
11. Study of phytochemical analysis of gymnosperms.

SUGGESTED READINGS:

Pteridophyte

1. Gifford E. M, Foster A.S. (1989). *Morphology and evolution of Vascular plants*, (3rd Edn). W H. Freeman & Co.
2. Rashid A. (1976). *An Introduction to Pteridophytes*. Vikas Publishing House.
3. Sporne K.R. (1986). *Morphology of Pteridophytes*. Hutchinson University Library, London.
4. Surange K.R. (1966). *Indian Fossil Pteridophytes*. Council of Scientific and Industrial Research.
5. Chandra S. & Srivastava M. (2003). *Pteridology in the New Millennium*. Khuwar Acad. Publishers
6. Stewart W.N. & Rothwell G.W. (2005). *Palaeobotany and the Evolution of Plants*, (2nd Edn.) Cambridge University Press.
7. Sharma O.P. (2006). *Text book of Pteridophyta*. Macmillan India Ltd., New Delhi.
8. *The Morphology of Gymnosperms*. K.R. Sporne. 1965. London. Hutchinson University Library; ed. H. Munro Fx. Hutchinson & Co. (Publishers).
9. John M. Coulter and Charles J. Chambrlain, 2018, *Morphology of Gymnosperms*. CreateSpace Independent Publishing Platform.
10. S.P. Bhatnagar and Alok Moitra, 1996, *Gymnosperms*. New Age International.
11. C. Biswas and B.M. Johri. 1997. *The Gymnosperms*. Springer-Verlag Berlin Heidelberg.
12. H. Fernández (ed.), 2018, *Current Advances in Fern Research*, Springer International Publishing.

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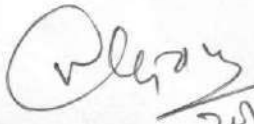
Department of Botany
CENTRAL UNIVERSITY OF JAMMU
Rahya-Suchani (Bagla), District-Samba,
Jammu-181143, (J&K) India

No. CUJ/Bot/Bagla/2020/1166

Date:-30/06/2020

Sl. No.	Name of the Department	Date of Meeting of Board of Studies held after 22-11-2019 till date	Date of Meeting of School Board held after 22-11-2019 till date
1.	Botany	09 th January,2020	No meeting held.


Prof. B. S. Dhau
Head, Department of Botany


30/6/2020

Enclosed:- Minutes of the meeting.

Acad(168)
30/6/20

**Minutes of the
9th Meeting of the Board of Studies
of
Department of Botany
Central University of Jammu**

Minutes
BOS



**Venue : Office of Head, Department of Botany, CUJ, Bagla
Date : Thursday, 9th January, 2020
Time : 10:30 am**

M. S. S. / P. W.

Page 1 of 3

Head / Dr. Arpan / S. C.



Department of Botany Central University of Jammu

No. CUJ/BOT/2020/

Date: 9th January, 2020

MINUTES OF THE 9th MEETING OF BOARD OF STUDIES (BOS) OF DEPARTMENT OF BOTANY

9.1 Minutes of the meeting of the 9th Board of Studies of Department of Botany held on 9th Jan, 2020 at 10.30 am in Committee Room, Temporary Academic Block, Central University of Jammu.

9.2 The following members attended the meeting:

Name	Affiliation
Prof. B. S. Bhau - Chairman	Department of Botany, Central University of Jammu
Prof. A. K. Wakhlu (retd.) - External Expert Member	Department of Botany, University of Jammu, Jammu
Prof. Namrata Sharma - External Expert Member	Head, Dept. of Botany, University of Jammu, Jammu
Prof. Veenu Koul - External Expert Member	Department of Botany, University of Jammu, Jammu
Dr. S. Vaishnavi - Member Secretary	Asst. Prof., Dept. of Botany, Central Univ. of Jammu
Dr. V. Srivastava - Special invitee	Asst. Prof., Dept. of Botany, Central Univ. of Jammu
Dr. D. Bhardwaj - Special invitee	Asst. Prof., Dept. of Botany, Central Univ. of Jammu
Dr. D. Kumar - Special invitee	Asst. Prof., Dept. of Botany, Central Univ. of Jammu
Dr. B. L. Bhellum - Special invitee	Assoc. Prof. (retd.), GCW Parade, Jammu

Dr. A. Bhat, Assistant Professor, Centre for Molecular Biology, CUJ could not attend the meeting.

9.3 Opening remarks by the Chair

The Chairman welcomed all the members, especially experts from outside the University, Retd. Prof. A. K. Wakhlu, Prof. Namrata Sharma and Prof. Veenu Koul, and thanked them for making it convenient to attend this meeting and providing invaluable inputs.

9.4 To consider and approve the course structure for semesters VIII - X of the Integrated M. Sc. Botany programme.

The courses pertaining to semesters VIII and IX were discussed in great detail. The courses of semester VIII were finalized and it was decided that the remaining courses shall be taken up in due course.

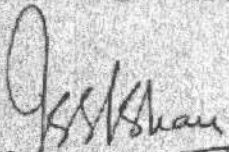
The approved course scheme and contents for semester VIII are placed on record as Annexure-1.

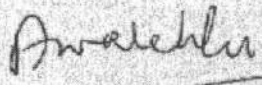
To consider and approve inclusion of the course 'Research and Publication Ethics' in Ph.D. coursework.

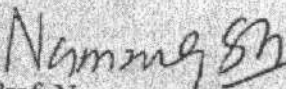
The course on 'Research and Publication Ethics (RPE)' was approved to be included in coursework for Ph.D. in Botany. The mode of evaluation would conform to University norms. Further, the modifications in core course 'Techniques in Biological Research (TBR)' were also approved.

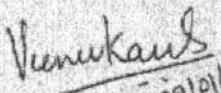
The approved courses, RPE and TBR are placed on record as Annexure - 2 and 3, respectively.


9.6 The Meeting ended with a vote of thanks to the Chair.

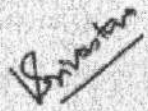

Prof. B. S. Bhat 9/1/20

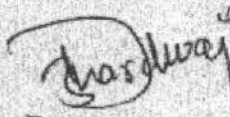

Retd. Prof. A. K. Wakhlu

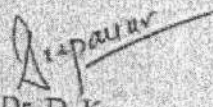

Prof. Namrata Sharma



Prof. Veenu Kaul 09/01/20


Dr. S. Vaishnavi


Dr. V. Srivastava


Dr. D. Bhardwaj


Dr. D. Kumar


Dr. B. L. Bhellum



Department of Chemistry and Chemical Sciences
CENTRAL UNIVERSITY OF JAMMU
 Rahya-Suchani (Bagla), District-Samba,
 Jammu-181143, (J&K) India

Annexure - VII

Ref. CUJ/Dche/2020/84

10-02-2020

To

The Dean
 School of Basic and Applied Sciences
 Central University of Jammu

Subject: Approval of items recommended in the 7th Board of Studies Meeting –
 Department of Chemistry and Chemical Sciences – Reg.

Dear Sir,

The 7th Board of Studies Meeting of the Department of Chemistry and Chemical Sciences was held on 07-02-2020 at 11.00 AM and the following items were recommended for approval by the School Board.

1. Revision and approval of Course Matrix as per UGC-Choice Based Credit System (CBCS) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Course (Semesters I to VI).
2. Revision and approval of syllabus for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Course (Semesters I and II).
3. Approval of Generic Elective Chemistry course (Theory and Lab) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Physics/Botany/Zoology course (UG Level).
4. Approval of change of Ph.D. supervisor of Ms. Diksha Rajput (Reg. No. 01051918) as recommended by the Department Research Committee.

It is requested that the School Board may be approved the above-mentioned items and forward the same to the next **Academic Council Meeting**.

Thanking you,

Yours Sincerely,

V. SRIDHARAN
 10-02-2020
 V. SRIDHARAN
 Associate Professor and Head.

प्रमुख / Head
 रसायन शास्त्र एवं रसायनिक विज्ञान विभाग
 Deptt. of Chemistry and Chemical Sciences
 जम्मू केंद्रीय विश्वविद्यालय
 Central University of Jammu
 Jammu

So (Acad) / A plan

17/2/2020

*Approved in anticipation
 to the next school
 meeting. Forwarded
 to AR (Academics) for
 necessary notification*

14/2/2020

*Acad-74
 14-2-2020*

Department of Chemistry and Chemical Sciences
CENTRAL UNIVERSITY OF JAMMU



7th Board of Studies (BoS) Meeting

Date of Meeting: 07-02-2020

Time: 11.00 AM

Contents

1. Agenda of the Meeting
2. Minutes of the Meeting
3. Course Matrix and Syllabus (Semesters I and II) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Program (w.e.f. Academic Session 2020-2021)
4. Syllabus for Generic Elective Papers for Five Year Integrated B.Sc.(Hons.)-M.Sc. Physics/Botany/Zoology (UG Level)

[Handwritten signatures]



Department of Chemistry and Chemical Sciences
CENTRAL UNIVERSITY OF JAMMU
Rahya-Suchani (Bagla), District-Samba,
Jammu-181143, (J&K) India

Agenda for 7th Board of Studies (BoS) Meeting

Date of Meeting: 07-02-2020

Time: 11.00 AM

Item No. 1: Revision and approval of Course Matrix as per UGC-Choice Based Credit System (CBCS) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Course (Semesters I to VI).

Item No. 2: Revision and approval of syllabus for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Course (Semesters I and II).

Item No. 3: Approval of Generic Elective Chemistry course (Theory and Lab) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Physics/Botany/Zoology course (UG Level).

Item No. 4: Approval of change of Ph.D. supervisor of Ms. Diksha Rajput (Reg. No. 01051918) as recommended by the Department Research Committee.

[Handwritten signatures]



Department of Chemistry and Chemical Sciences
CENTRAL UNIVERSITY OF JAMMU
Rahya-Suchani (Bagla), District-Samba,
Jammu-181143, (J&K) India

No. CUJ/DChc/2020/83

07-02-2020

Minutes of the Meeting

Minutes of the meeting of 7th Board of Studies (BoS) of the Department of Chemistry and Chemical Sciences held on 7th February 2020 at 11.00 AM in the department.

Members Present:

1. Dr. V. Sridharan (Chairman and HoD)
2. Prof. Kamal K. Kapoor (External Expert)
3. Dr. Pawan Kumar (Member)
4. Dr. Tapta Kanchan Roy (Member)

Special Invitees:

1. Dr. Sujata Kundan
2. Dr. Princy Gupta

The Head of Department welcomed the members to the 7th meeting of the Board of Studies of Department of Chemistry and Chemical Sciences. The following items of the agenda were presented before the Board of Studies for consideration.

Item No. 1:

Revision and approval of Course Matrix as per UGC-Choice Based Credit System (CBCS) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Course (Semesters I to VI).

Decision of BoS: The drafted Course Matrix as per UGC-Choice Based Credit System (CBCS) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Course was taken up for discussion. After a detailed discussion, the proposed Course Matrix was approved (**Annexure I**).

Item No. 2:

Revision and approval of syllabus for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Course (Semesters I and II).

Decision of BoS: The drafted syllabus for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry Course (Semesters I and II) was taken up for discussion. After a detailed discussion, the changes were made as suggested by the members and the updated syllabus for Semesters I and II was approved (**Annexure I**).

Item No. 3: Approval of Generic Elective Chemistry course (Theory and Lab) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Physics/Botany/Zoology course (UG Level).

Decision of BoS: The drafted syllabus for Generic Elective Chemistry course (Theory and Lab) for Five Year Integrated B.Sc.(Hons.)-M.Sc. Physics/Botany/Zoology course (UG Level) was taken up for discussion. After a detailed discussion, the changes were made as suggested by the members and the updated syllabus was approved (**Annexure II**).

Sridharan
07-02-2020

Kapoor
07/02/2020

Kundan
07/02/2020

Princy Gupta
7/2/2020

Roy
07/02/20

BoS
07/02/2020



Department of Chemistry and Chemical Sciences
CENTRAL UNIVERSITY OF JAMMU
Rahya-Suchani (Bagla), District-Samba,
Jammu-181143, (J&K) India

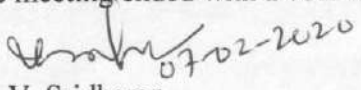
Item No. 4: Approval of change of Ph.D. supervisor of Ms. Diksha Rajput (Reg. No. 01051918) as recommended by the Department Research Committee.

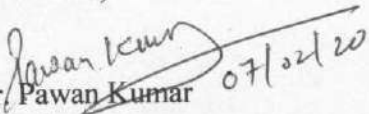
Decision of BoS: The DRC recommended change of Ph.D. supervisor of Ms. Diksha Rajput (Reg. No. 01051918) was discussed and approved.

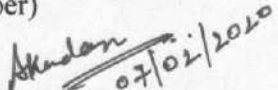
Previous Supervisor: Dr. Venkata Ramana Doddi

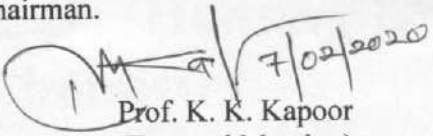
Currently allotted Supervisor: Dr. V. Sridharan w.e.f. 05-02-2020 (**Annexure III**)


The meeting ended with a vote of thanks by the Chairman.

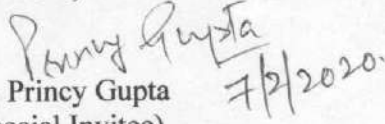

Dr. V. Sridharan
(Chairman)


Dr. Pawan Kumar
(Member)


Dr. Sujata Kundan
(Special Invitee)


Prof. K. K. Kapoor
(External Member)


Dr. Tapta Kanchan Roy
(Member)


Dr. Princy Gupta
(Special Invitee)

Course Matrix and Syllabus (Semesters I and II)

Five Year Integrated B.Sc.(Hons.)-M.Sc. Program in Chemistry (under CBCS, w.e.f. Academic Session 2020-2021)



Offered By
**Department of Chemistry and Chemical
Sciences**

CENTRAL UNIVERSITY OF JAMMU
Rahya-Suchani (Bagla), District-Samba
Jammu-181143, (J&K) India

**Course Matrix for Five Year Integrated B.Sc.(Hons.)-M.Sc. Chemistry
Semesters I to VI
w.e.f. Academic Session 2020-2021**

Semester	Core Course (CC)		Ability Enhancement Compulsory Course (AECC)		Ability Enhancement Elective Course (AEEC) (Skill Based)		Discipline Specific Elective (DSE)		Generic Elective (GE)		Total
	Theory	Lab	Theory	Lab	Theory	Lab	Theory	Lab	Theory	Lab	
I	8	4	2	-	-	-	-	-	4	2	20
II	8	4	2	-	-	-	-	-	4	2	20
III	12	6	-	-	2	-	-	-	4	2	26
IV	12	6	-	-	2	-	-	-	4	2	26
V	8	6	-	-	-	-	8	2	-	-	24
VI	8	2	-	-	-	-	8	6	-	-	24
Total	56	28	4	-	4	-	16	8	16	8	140

Course Type	Code
Core Course	CC
Ability Enhancement Compulsory Course	AC
Ability Enhancement Elective Course (Skill Based)	AE
Discipline Specific Elective	DE
Generic Elective	GE

Semester – I

Course Code	Course	Type	Credits	Contact hours per week (L-T-P)
ICCHM1CC01T	Inorganic Chemistry-I	CC	4	3-1-0
ICCHM1CC02T	Organic Chemistry-I	CC	4	3-1-0
ICCHM1CC01L	Inorganic Chemistry Lab-I	CC	2	0-0-4
ICCHM1CC02L	Organic Chemistry Lab-I	CC	2	0-0-4
ICPHY1GE01T	Physics	GE	4	3-1-0
ICPHY1GE01L	Physics Lab	GE	2	0-0-4
ICECL1AC01T	English	AC	2	2-0-0
	Total		20	

Semester – II

Course Code	Course	Type	Credits	Contact hours per week (L-T-P)
ICCHM2CC01T	Physical Chemistry-I	CC	4	3-1-0
ICCHM2CC02T	Inorganic Chemistry-II	CC	4	3-1-0
ICCHM2CC01L	Physical Chemistry Lab-I	CC	2	0-0-4
ICCHM2CC02L	Inorganic Chemistry Lab-II	CC	2	0-0-4
ICAMT2GE01T	Mathematics	GE	4	3-1-0
ICAMT2GE01L	Mathematics Lab	GE	2	0-0-4
ICEVS2AC01T	Environmental Science	AC	2	2-0-0
	Total		20	

Examination Pattern

Course	Credit	CIA	MSE	ESE	Max. Marks
Theory	4	25	25	50	100
Theory	2	12.5	12.5	25	50
Practical	2	25	-	25	50

Semester: I

Course Name: Inorganic Chemistry-I

Course Code:

4 Credits (3-1-0)

UNIT - I

12 hours

Atomic structure-I: Characteristics of Black-body radiation, Planck's radiation law, Photoelectric effect, Compton effect, Bohr's model of hydrogen atom and its limitations, Rutherford's atomic model, Bohr's theory, Dual nature of electrons, de Broglie hypothesis and its derivation, Heisenberg's uncertainty principle.

UNIT - II

12 hours

Atomic structure-II: Schrodinger wave equation and its importance, Physical interpretation and significance of Ψ and Ψ^2 , Radial and angular wave functions, Probability distribution curves, Quantum numbers and their significance, Atomic orbitals, Shapes of *s*, *p*, *d* and *f* atomic orbitals and their characteristics, Aufbau and Pauli exclusion principles, Hund's multiplicity rule and (*n+l*) rule, Electronic configurations of elements (*s*, *p* and 3*d*-block elements), Effective nuclear charge and shielding effect, Slater's rule, Calculation of screening constant.

UNIT - III

12 hours

Periodic table and periodicity: Periodic table and periodic properties, Long form of periodic table, Classification of elements as main group, transition and inner transition elements, Periodic properties: Atomic radius, Covalent, Ionic and van der Waals radii, Ionization energy, Electron affinity, Electronegativity: Definition, Methods of determination-Pauling's, Mulliken's and Allred-Rochow's scales, Numerical problems, Inert pair effect.

UNIT - IV

12 hours

Chemical bonding-I: Covalent Bond, Valence bond theory and its limitations, Basic concept of resonance, Bond angles and shapes of molecules and ions, Directional characteristics of covalent bond, Bent's rule, Various types of hybridization and shapes of simple inorganic molecules and ions, Valence shell electron pair repulsion (VSEPR) theory, Application of VSEPR theory to NH_3 , H_3O^+ , SF_4 , ClF_3 , ICl_2 , and H_2O .

UNIT - V

12 hours

Chemical bonding-II: Properties of ionic compounds, Unit cell, Types of unit cells, Packing in ionic solids, Madelung constant, Structures of some common ionic solids, AB-type: NaCl, ZnS-zinc blende and wurtzite, CsCl, AB₂ type: CaF_2 , A₂B type: Na_2O , Radius ratio effect and Coordination number, Limitation of radius ratio rule, Lattice energy and Born-Haber cycle, Solvation energy and solubility of ionic solids, Polarizing power and polarisability of ions, Fajan's rule.

REFERENCES

1. B. R. Puri, L. R. Sharma and K. K. Kalia, *Principles of Inorganic Chemistry*, 33rd Ed., New Delhi, S. L. N. Chand & Co., 2017.
2. J. D. Lee, *Concise Inorganic Chemistry*, 5th Ed., UK, John Wiley & Sons, 2016.
3. W. U. Malik, G. D. Tuli and R. D. Madan, *Selected Topics in Inorganic Chemistry*, Revised Ed., S. Chand, 2010.
4. N. N. Greenwood and A. Earnshaw, *Chemistry of the Elements*, 2nd Ed., Pergamon, 1997.

Semester: I

Course Name: Organic Chemistry-I

Course Code:

4 Credits (3-1-0)

UNIT - I

12 hours

Basics of organic chemistry: Classification and nomenclature of organic compounds, Hybridization, Shapes of molecules, Influence of hybridization on bond lengths, bond angles and bond energy, Inductive effect, Polar covalent bonds and dipole moment, Delocalized bonds and resonance, Drawing resonance structures, Concept of formal charge, Hyperconjugation, Steric effect, Steric inhibition of resonance, Hydrogen bonding, Inter- and intramolecular hydrogen bonding, Effect on boiling point and solubility.

UNIT - II

12 hours

Introduction to organic reaction mechanism: Addition, elimination, substitution and rearrangement reactions, Homolytic and heterolytic C-C bond fission, Electrophiles and nucleophiles, Generation, structure and stability of reactive intermediates: carbocations, carbanions, free radicals, carbenes and nitrenes, Acids and bases, Factors affecting acid and base strength.

UNIT - III

12 hours

Aromaticity: Resonance in benzene, Huckel's rule, Aromatic, non-aromatic and anti-aromatic compounds, Aromatic character of arenes, Cyclic carbocations/carbanions and heterocyclic compounds, Electrophilic substitution reactions in aromatic compounds, General mechanisms of nitration, halogenation, sulphonation, Friedel-Craft's acylation and alkylation, *ortho/para/meta* directive effect of substituents.

UNIT - IV

12 hours

Stereochemistry I: Concept of isomerism, Optical isomerism, Chirality and elements of symmetry, Classification of stereoisomers, Enantiomers and diastereoisomerism involving one and two chiral centers, *Meso/dl* and *erythro/threo* isomers, Relative and absolute configurations, *D-L*, *R-S* systems of nomenclature, Fischer, Newmann and Sawhorse projection formulae and their interconversion.

UNIT - V

12 hours

Stereochemistry II: Optical isomerism of allenes and biphenyls, *R-S* nomenclature of allenes and biphenyls, Conformational analysis of ethane, *n*-butane and cyclohexane, Preferred conformations of cyclic and acyclic compounds, Ring inversion of cyclohexane, Geometrical isomerism: *cis-trans*, *syn-anti*, *E-Z* notations, Geometrical isomerism in oximes, cumulenes and alicyclic compounds.

REFERENCES

1. R. T. Morrison, R. N. Boyd and S. K. Bhattacharjee, *Organic Chemistry*, 7th Ed., 2011.
2. A. Bahl and B. S. Bahl, *A Text Book of Organic Chemistry*, 22nd Ed., 2016.
3. T. W. G. Solomons, *Fundamentals of Organic Chemistry*, John Wiley, 5th Ed., 1998.
4. L.G. Wade Jr., *Organic Chemistry*, Prentice Hall, 8th Ed., 2016.
5. P. Y. Bruice, *Organic Chemistry*, 8th Ed., 2016.
6. F. A. Carey and R. M. Giuliano, *Organic Chemistry*, McGraw Hill, 10th Ed., 2016.

Semester: I

Course Name: Inorganic Chemistry Lab-I

Course Code:

2 Credits (0-0-4)

General Instructions: Demonstration and concept of good lab practices including safety, chemical/glassware handling, chemical nature understanding, waste management, notebook maintenance.

Part A

1. Calibration and use of apparatus
2. Preparation of solutions of different Molarity/Normality

Part B: Volumetric Analysis:

Acid-Base Titrations

1. Titration of HCl Vs NaOH (strong acid Vs strong base).
2. Titration of HCl Vs Na_2CO_3 (strong acid Vs weak base).
3. Titration of Oxalic acid Vs NaOH (weak acid Vs strong base).
4. Titration of Acetic acid (commercial vinegar) Vs NaOH (weak acid Vs strong base).
5. Any other related experiments as desired by the course teacher.

Oxidation-Reduction Titrations

1. Estimation of Fe(II) using KMnO_4 .
2. Estimation of oxalic acid using KMnO_4 .
3. Estimation of Fe(II) using $\text{K}_2\text{Cr}_2\text{O}_7$.
4. Any other related experiment as desired by the course teacher.

REFERENCES:

1. G. H. Jeffery, J. Bassett, J. Mendham and R. C. Denny *Vogel's Text book of Quantitative Chemical Analysis*, 5/e., LBS.
2. V. K. Ahluwalia, S. Dhingra and A. Gulate, *College Practical Chemistry*, 2008 (reprint), Universities Press (India) Pvt Ltd.
3. In-house laboratory manual with experimental procedures and relevant information (Department of Chemistry and Chemical Sciences, Central University of Jammu).

Semester: I

Course Name: Organic Chemistry Lab-I

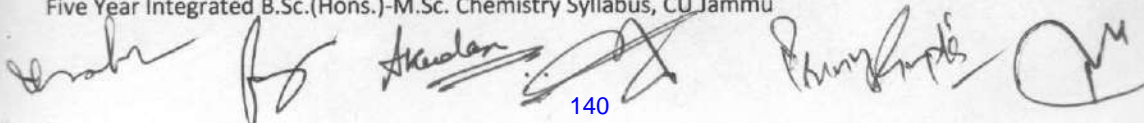
Course Code:

2 Credits (0-0-4)

1. Purification of organic compounds by crystallization.
Compounds: Phthalic acid, Acetanilide, Naphthalene, Benzoic acid etc.
Solvents: Water, Ethanol, Aqueous ethanol.
2. Determination of melting point of at least four organic compounds.
3. Effect of impurities on the melting point: mixed melting point of two unknown organic compounds.
4. Determination of boiling point of liquid compounds (distillation and capillary method).
5. Separation of a mixture of two amino acids by ascending and horizontal paper chromatography.
6. Separation of a mixture of compounds by thin layer chromatography (TLC).
7. Any other related experiments as desired by the course teacher.

REFERENCES:

1. F. G. Mann, and B. C. Saunders, *Practical Organic Chemistry*, Pearson Education, 2009.
2. B. S. Furniss, A. J. Hannaford, P. W. G. Smith, A. R. Tatchell, *Vogel's Textbook of Practical Organic Chemistry*, 5th Ed., Pearson, 2012.
3. In-house laboratory manual with experimental procedures and relevant information (Department of Chemistry and Chemical Sciences, Central University of Jammu).



Semester: II

Course Name: Physical Chemistry-I

Course Code:

4 Credits (3-1-0)

UNIT – I

12 hours

Gaseous state of matter: Postulates of kinetic theory of gases, Gas laws from kinetic equation, Relation between kinetic energy and temperature, Maxwell distribution of molecular velocities and kinetic energies, Effect of temperature, Most probable velocity, Average velocity and root mean square velocity, Evaluation of these velocities using Maxwell equation, Collision theory, Collision frequency and mean free path, Degrees of freedom of gaseous molecule: Translational, rotational and vibrational, Deviation from ideal behaviour, van der Waals equation of state for real gases, Virial equation of state, Critical phenomenon, Critical constants, Law of corresponding states.

UNIT – II

12 hours

Liquid state and viscosity of fluids: Nature of the liquid state, Vapour pressure, Surface tension, Capillary rise and measurement of surface tension, Work of cohesion and adhesion, Spreading of liquid over other surface, Temperature dependence of surface tension, General features of fluid flow, Reynold number, Nature of viscous drag for streamline motion, Newton' equation, Viscosity coefficient, Poiseuille's equation, Temperature dependence of viscosity, Principle of determination of viscosity coefficient of liquids by falling sphere method.

UNIT – III

12 hours

Thermodynamics-I: Thermodynamic terms, State functions, path functions and their differentials, Thermodynamic process, Concept of heat and work, First Law of thermodynamics, Internal energy and enthalpy, Heat capacity, Heat capacities at constant volume and pressure and their relationship, Joule's law, Joule-Thomson experiment, Joule-Thomson coefficient and inversion temperature, Calculation of w , q , dU & dH for the expansion of ideal gases under isothermal and adiabatic condition for reversible process, Zeroth law of thermodynamics.

UNIT – IV

12 hours

Thermochemistry: Hess's law of constant heat summation, Exothermic and endothermic reactions, Standard enthalpy changes, Types of enthalpy changes: reaction, formation, combustion, neutralization, ionization, Enthalpy of physical transformations, Kirchhoff's equation, Bond energy and bond enthalpy, Numerical problems.

UNIT – V

12 hours

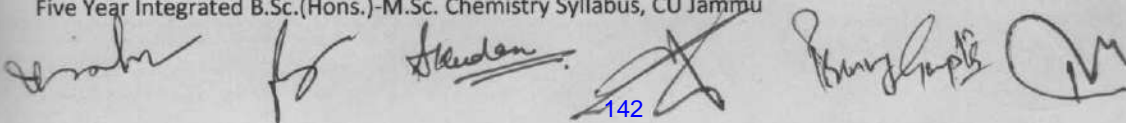
Thermodynamics-II: Second law of thermodynamics, Heat engine, Carnot cycle and its efficiency, Concept of entropy, Physical significance of entropy, Entropy change in an ideal gas, Entropy as a function of temperature, volume and pressure, Entropy change of universe, Combined statement of first and second laws of thermodynamics, Entropy change for isolated systems, Thermodynamic relations based on 2nd law: energy as a function of temperature and volume, enthalpy as a function of temperature and pressure.

REFERENCES

1. P. W. Atkins, *The Elements of Physical Chemistry*, Oxford, 11th Ed., 2019.
2. R. P. Rastogi and R. R. Mishra, *Chemical Thermodynamics*, Vikas Publishing House

Pvt. Ltd., 6th Ed., 2009.

3. K. L. Kapoor, *A Text Book of Physical Chemistry*, McGraw Hill Education (India) Pvt. Ltd., Vol. 3, 5th Ed., 2014.
4. B. R. Puri, L. R. Sharma and M. S. Pathania, *Principles of Physical Chemistry*, Vishal Publishing Co., 49th Ed., 2019.

A series of handwritten signatures and initials in blue ink, including a large stylized signature, the word 'Student', and several other initials.

Semester: II

Course Name: Inorganic Chemistry-II

Course Code:

4 Credits (3-1-0)

UNIT – I

12 hours

Chemical bonding-III: Molecular orbital theory, Postulates, Criteria for forming MOs, Construction of MOs by LCAO, Physical picture of bonding and antibonding wave functions, Concept of σ , σ^* , π , π^* orbitals and their characteristics, Homonuclear (He_2 , N_2 , O_2 , F_2 , C_2) and heteronuclear (CO and NO) diatomic molecules, Bond order and bond energy, Calculation of percentage ionic character from dipole moment and electronegativity difference.

UNIT – II

12 hours

Solid defects: Intrinsic and extrinsic defects, Point defects, Line and plane defects, Schottky and Frenkel defects, Metallic bonding: Insulators and semiconductors, Band theory, Band structure of metals, Intrinsic and extrinsic semiconductors, Doping semiconductors, p - n junctions, High temperature super conductors, Metallic bond.

UNIT – III

12 hours

Basic concepts of pH and redox reaction: Concept of pH, pH scale, Calculation of pH of weak/strong acids/base, pK_a , determination of pH using potentiometric methods, Buffers- Mechanism of buffer action, Henderson-Hassel equation, Application of buffer solution, Hydrolysis of salts, Oxidation and Reduction, Standard Electrode Potential and its application to inorganic reactions, Electrochemical series and its applications.

UNIT – IV

12 hours

Acids-bases and weak interactions: Various definitions of acids and bases, Arrhenius, Bronsted-Lowry concepts of acid bases, Measurement of acid-base strength, Lewis interactions in non-polar solvents, Lewis acid-base interactions, Bond energies, Steric effects, Solvation effects. van der Waals forces: Dipole-dipole, ion-dipole, dipole-induced dipole, and instantaneous dipole-induced dipole interactions, Hydrogen bonding, Inter- and intramolecular hydrogen bonding and applications.

UNIT – V

12 hours

Principles of inorganic analysis: Common ion effect, solubility product and their applications in qualitative analysis, Reactions involved in the separation and identification of cations and anions, Spot tests reagents, Aluminon cupferon, DMG, thiourea, magneson, alizarin and Nessler's reagents, Quantitative analysis: Gravimetric and Volumetric analysis.

REFERENCES

1. B. R. Puri, L. R. Sharma and K. K. Kalia, *Principles of Inorganic Chemistry*, 33rd Ed., New Delhi, S. L. N. Chand & Co., 2017.
2. J. D. Lee, *Concise Inorganic Chemistry*, 5th Ed., UK, John Wiley & Sons, 2016.
3. W. U. Malik, G. D. Tuli and R. D. Madan, *Selected Topics in Inorganic Chemistry*, Revised Ed., S. Chand, 2010.
4. P. L. Soni, and M. Katyal, *Text Book of Inorganic Chemistry*, S. Chand & Sons, New Delhi, 2013.
5. J. E. Huheey, E. A. Keiter, R. L. Keiter and O. K. Medhi, *Principles of Structure and Reactivity*, 4th Ed., Pearson Education, 2006.

Semester: II

Course Name: Physical Chemistry Lab-I

Course Code:

2 Credits (0-0-4)

PART A: Liquid state

1. Determination of the surface tension of given liquids by stalagmometer method.
2. Determination of the viscosity of a given liquids by Ostwald's viscometer.
3. Determination of viscosity of two pure liquids A and B and hence to find the composition of the two liquid mixtures.
4. Determination of the heat of solutions of given compounds.
5. Determination of solubility of benzoic acid at different temperatures and to determine the enthalpy change of dissolution process.
6. Any other related experiment as desired by the course teacher.

PART B: Thermochemistry

1. Determination of the heat of neutralization of HCl by NaOH.
2. Determination of molecular weight of the given volatile organic liquid by using ideal gas equation.
3. Any other related experiments as desired by the course teacher.

REFERENCES

1. V. K. Ahluwalia, S. Dhingra and A. Gulate, *College Practical Chemistry*, 2008, Universities Press (India) Pvt Ltd.
2. A. Ghoshal, B. Mahapatra and A. K. Nad, *An Advanced Course in Practical Chemistry*, New Central Book Agency Pvt. Ltd., 3rd Ed., 2012.
3. J. B. Yadav, *Advanced Practical Physical chemistry*, Goel Publishing, 1st Ed., 2015.
4. In-house laboratory manual with experimental procedures and relevant information (Department of Chemistry and Chemical Sciences, Central University of Jammu).

Semester: II

Course Name: Inorganic Chemistry Lab-II

Course Code:

2 Credits (0-0-4)

Qualitative inorganic analysis

Qualitative semi-micro analysis of mixtures of anions and cations

List of anions: CO_3^{2-} , S^{2-} , SO_4^{2-} , NO_3^- , NO_2^- , $(\text{CO}_2)_2^{2-}$, F^- , Cl^- , Br^- , I^- , SCN^- , $\text{S}_2\text{O}_3^{2-}$, BO_3^{3-} etc.

List of Cations: Groups I and II

REFERENCES:

1. V. V. Ramanujam, *Inorganic Semi Micro Qualitative Analysis*, 3rd Ed., National Publishing Company, Chennai.
2. G. H. Jeffery, J. Bassett, J. Mendham and R. C. Denny *Vogel's Text book of Quantitative Chemical Analysis*, 5/e., LBS.
3. In-house laboratory manual with experimental procedures and relevant information (Department of Chemistry and Chemical Sciences, Central University of Jammu).

**Generic Elective Papers for Five Year Integrated B.Sc.(Hons.)-M.Sc.
Physics/Botany/Zoology (UG Level)**

Semester: I-IV

Course Name: Chemistry

Course Code:

4 Credits (3-1-0)

UNIT – I**12 hours**

Atomic structure and wave mechanics: Characteristics of Black-body radiation, Planck's radiation law, Bohr's model of hydrogen atom and its limitations, Rutherford's atomic model, Bohr's theory, Dual nature of electrons, de Broglie hypothesis and its derivation, Heisenberg's uncertainty principle, Quantum numbers and their significance, Atomic orbitals, Shapes of *s*, *p*, *d* orbitals and their characteristics, Aufbau and Pauli exclusion principles, Hund's multiplicity rule and (n+l) rule, Electronic configurations of the elements (*s*, *p* and *3d*-block elements).

UNIT – II**12 hours**

Chemical bonding: Covalent Bond, Valence bond theory and its limitations, Directional characteristics of covalent bond, Various types of hybridization and Shapes of simple molecules, Valence shell electron pair repulsion (VSEPR) theory, Molecular orbital theory, Postulates, Properties of ionic compounds, Unit cell, Types of unit cells, Packing in ionic solids, Structures of some common ionic solids: NaCl, CaF₂.

UNIT – III**12 hours**

Basics of organic chemistry: Classification and nomenclature of organic compounds, Hybridization, Shapes of molecules, Influence of hybridization on bond lengths, Bond angles and bond energy, Inductive effect, Polar covalent bonds and dipole moment, Delocalized bonds and resonance, Drawing resonance structures, Hyperconjugation, Steric effect, Steric inhibition of resonance, Hydrogen bonding, Inter- and intramolecular hydrogen bonding, Effect on boiling point and solubility.

UNIT – IV**12 hours**

Introduction to organic reaction mechanism: Addition, elimination, substitution and rearrangement reactions, Homolytic and heterolytic C–C bond fission, Electrophiles and nucleophiles, Structure and stability of reactive intermediates: carbocations, carbanions and free radicals.

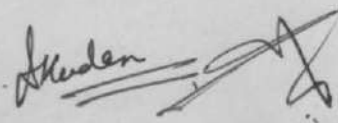
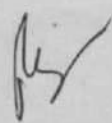
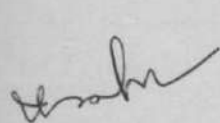
Aromaticity: Resonance in benzene, Huckel's rule, Aromatic, non-aromatic and anti-aromatic compounds, Aromatic character of arenes, cyclic carbocations/carbanions and heterocyclic compounds with suitable examples.

UNIT – V**12 hours**

Gaseous state of matter: Postulates of kinetic theory of gases, Gas laws from kinetic equation, Relation between kinetic energy and temperature, Thermal motion of molecules, Maxwell distribution of molecular velocities and kinetic energies, Effect of temperature, Most probable velocity, Average velocity and root mean square velocity, Evaluation of these velocities using Maxwell equation, Deviation from ideal behavior, Equation of state for real gases (van der Waals equation), Virial equation of state.

REFERENCES

1. J. D. Lee, *Concise Inorganic Chemistry*, 5th Ed., UK, John Wiley & Sons, 2016.
2. B. R. Puri, L. R. Sharma and K. K. Kalia, *Principles of Inorganic Chemistry*, 33rd Ed., New Delhi, S. L. N. Chand & Co., 2017.
3. F. A. Cotton and G. Wilkinson, C. A. Murillo and M. Bochmann, *Basic Inorganic Chemistry*, 6th Ed., John Wiley, 1999.
4. R. T. Morrison, R. N. Boyd and S. K. Bhattacharjee, *Organic Chemistry*, 7th Ed., 2011.
5. A. Bahl and B. S. Bahl, *A Text Book of Organic Chemistry*, 22nd Ed., 2016.
6. P. Y. Bruice, *Organic Chemistry*, 8th Ed., 2016.
7. P. W. Atkins, *The Elements of Physical Chemistry*, Oxford, 10th Ed., 2016.
8. B. R. Puri, L. R. Sharma and M. S. Pathania, *Principles of Physical Chemistry*, Vishal Publishing Co., 47th Ed., 2017.



Semester: I-IV

Course Name: Chemistry Lab

Course Code:

2 Credits (0-0-4)

General Instructions: Demonstration and concept of good lab practices including safety, chemical/glassware handling, chemical nature understanding, waste management, notebook maintenance.

Part A

1. Calibration and use of apparatus
2. Preparation of solutions of different Molarity/Normality

Part B: Volumetric Analysis:

Acid-Base Titrations

1. Titration of HCl Vs NaOH (strong acid Vs strong base)
2. Titration of HCl Vs Na₂CO₃ (strong acid Vs weak base)
3. Titration of Oxalic acid Vs NaOH (weak acid Vs strong base)

Oxidation-Reduction Titrations

1. Estimation of Fe(II) using KMnO₄.
2. Estimation of oxalic acid using KMnO₄.
3. Estimation of Fe(II) using K₂Cr₂O₇.

Part C: Qualitative inorganic analysis

Qualitative semi-micro analysis of inorganic anions: List of anions: CO₃²⁻, SO₄²⁻, NO₃⁻, CH₃COO⁻, Cl⁻, Br⁻ etc.

REFERENCES:

1. G. H. Jeffery, J. Bassett, J. Mendham and R. C. Denny *Vogel's Text book of Quantitative Chemical Analysis*, 5/e., LBS.
2. V. K. Ahluwalia, S. Dhingra and A. Gulate, *College Practical Chemistry*, 2008 (reprint), Universities Press (India) Pvt Ltd.
3. O. P. Pandey, D. N. Bajpai and S. Giri, *Practical Chemistry, for I, II & III BSc. Students*, 2009 (reprint), S. Chand & Company Ltd.
4. V. Venkateswaran, R. Veeraswamy and A. R. Kulandaivelu, *Basic Principles of Practical Chemistry*, 2004, Sultan Chand and Sons, New Delhi.
5. In-house laboratory manual with experimental procedures and relevant information

Examination Pattern

Course	Credit	CIA	MSE	ESE	Max. Marks
Chemistry	4	25	25	50	100
Chemistry Lab	2	25	-	25	50



Department of Chemistry and Chemical Sciences
CENTRAL UNIVERSITY OF JAMMU
Rahya-Suchani (Bagla), District-Samba,
Jammu-181143, (J&K) India

No: CUJ/DCh/2020/ 81

05-02-2020

Minutes of the Meeting of Departmental Research Committee

Departmental Research Committee meeting of the Department of Chemistry and Chemical Sciences was held on 05-02-2020 at 11:00 AM in the Central University of Jammu.

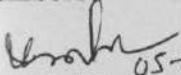
Members Present:

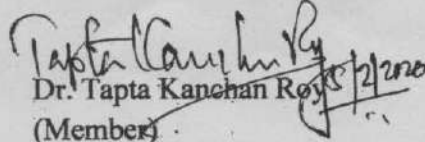
Dr. V. Sridharan	Associate Professor and HoD (Convener)
Dr. Tapta Kanchan Roy	Assistant Professor (Member)
Dr. Vinay Kumar	Dean's Nominee (Member)
Dr. Sujata Kundan	Special invitee
Dr. Princy Gupta	Special invitee

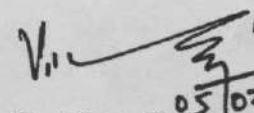
The Head of the Department welcomed the members for the meeting of Departmental Research Committee in the Dept. of Chemistry and Chemical Sciences and informed the committee members regarding the change of supervisor for the Ph.D. student Ms. Diksha Rajput (Reg. No. 01051918).

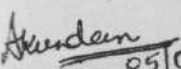
Dr. Venkata Ramana Doddi was initially allotted as Ph.D supervisor for Ms. Diksha Rajput (Reg. No. 01051918) and he has recently moved to the Central University of Karnataka. On the basis of the requests given by Dr. Venkata Ramana Doddi and Ms. Diksha Rajput, the DRC recommends to allot Dr. V. Sridharan, Associate Professor as the new Ph.D. supervisor to Ms. Diksha Rajput w.e.f. 05-02-2020.

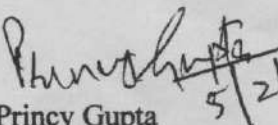
Members


05-02-2020
Dr. V. Sridharan
(Convener and HoD)


05/2/2020
Dr. Tapta Kanchan Roy
(Member)


05/02/2020
Dr. Vinay Kumar
(Dean's Nominee)


05/02/2020
Dr. Sujata Kundan
(Special invitee)


5/2/2020
Dr. Princy Gupta
(Special invitee)

From: Venkata Ramana Doddi doddi4u@gmail.com
Subject: Diksha Rajput transfer
Date: 31 January 2020 1:14 pm
To: Sridharan Vellaisamy vesridharan@gmail.com
Cc: diksha rajput diksharajput911@gmail.com



Dear Sir,

I joined central university of Karnataka on 29-01-2020 as associate professor in chemistry department. Diksha Rajput was pursuing Ph. D under my supervision till 27-01-2020. As per the recent telecommunications with Diksha and prevailed conditions, I request you to completely transfer Diksha Rajput to another supervisor of the department.

Thanking you all for your support during my stay at CUJ.

Regards

Dr. Venkata Ramana Doddi



जम्मू केंद्रीय विश्वविद्यालय
Central University of Jammu

राया-सूचानी (बागला),साम्बा-181143, जम्मू (जम्मू और कश्मीर)
Rahya-Suchani (Bagla), Samba-181143, Jammu (J & K)-India

Department of Nanosciences & Materials

Ref. No: CUJ/DNSM/2020/612

Date: ~~27-01-2020~~ 27-01-2020

Subject: Minutes of the meeting of Board of Studies (BOS) held in the Department of Nanosciences & Materials on 27th January, 2020 at 11 AM in Head's office in the Main campus Rahya Suchani, Samba, Central University of Jammu.

Members Present:

1. Dr. V. Sridharan
2. Dr. Akashdeep
3. Dr. R. T. Durai Prabhakaran
4. Dr. Vishal Singh
5. Dr. Princy Gupta
6. Dr. Tanuj Kumar
7. Dr. Pragati Kumar
8. Dr. Pawan Kumar

The head of the Department welcomed the members to the 5th meeting of the Board of Studies in Department of Nanosciences & Materials. After that agenda items were taken up for discussion.

The item wise decision of BOS is given below:

Item No.1: To approve the minutes of Department Research committee (DRC) of the Department of Nanosciences & Materials held on 15-01-2020 regarding the allotment of supervisor for the students admitted for Ph D programme during academic session 2018-2019 and approval of their Synopsis.

Decision of BOS: Recommendations of DRC was approved by the members of BOS with following details:

27-01-2020 27.01.2020 Princy Gupta 27-1-20

S. No	Name of the student	Supervisor	Co-supervisor	Title of PhD Thesis
1	Vaishali Misra (Reg. No. 0151418)	Dr. Vishal Singh	Dr. Ajay Singh Dadwal	<i>Preparation and Functionalization of Graphene Based Multiferroic Thin Film for Energy Storage Applications</i>
2	Bhanu Priya (Reg. No. 0251418)	Dr. Tanuj Kumar	Dr. Vinamrita Singh	<i>Synthesis of Vanadium Pentoxide (V₂O₅) Thin film and its Characterizations</i>
3	Tania Kalsi (Reg. No. 0351418)	Dr. Pragati Kumar		<i>Study of Undoped/Doped CdS Nanostructures for Photosensing Application</i>

Item No.2: To approve the syllabus for Foundation Course in M. Sc Material Science and Technology for Semester IV.

Decision of BOS: Syllabus for Foundation Course in M. Sc Material Science and Technology entitled "Research Skills" for Semester IV was taken up for discussion. After a thorough discussion the syllabus was then approved.

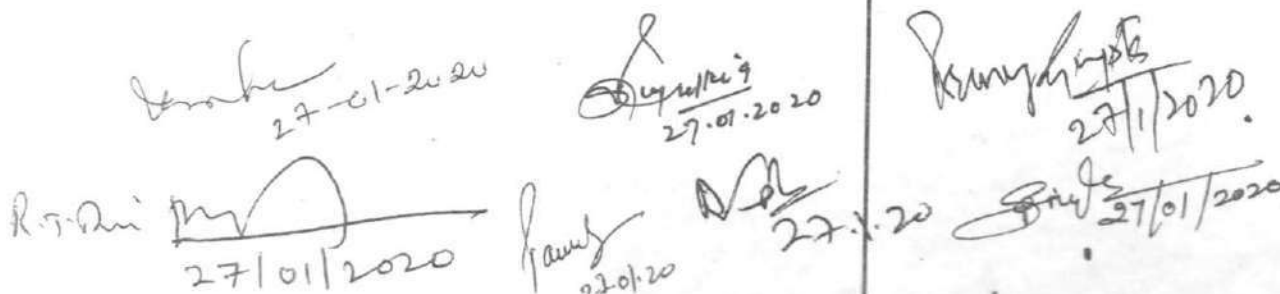
Item No.3: To review and modify the course matrix and syllabus of M. Sc Material Science and Technology from the academic session 2020-2021

Decision of BOS: The syllabus & Scheme of M. Sc Material Science and Technology were taken up for discussion. After discussion the changes were made as suggested by the members. The updated course matrix and syllabus were then approved.

Item No.3: To adopt the course for awareness about publication ethics and publication misconducts entitled "**Research and Publication Ethics**" for PhD Course Work as approved by UGC with reference to D.O.No.F-1/2018 (Journal/CARE) Dated: December, 2019 from the academic session 2020-2021.

Decision of BOS: The course for awareness about publication ethics and publication misconducts entitled "**Research and Publication Ethics**" for PhD Course Work as approved by UGC is adopted from the academic session 2020-2021.

The meeting ended with vote of thanks of the chair.



 27-01-2020
 27.01.2020
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 27/01/2020

Members present in 5th Board of studies of the Department of Nanosciences & Materials on 27th January, 2020 at 11 AM in Head's office in the Main campus Rahya Suchani, Samba, Central University of Jammu.

Members

1. Dr. V. Sridharan (Convener & i/c Head)
(Department of Nanosciences & Materials, C U-Jammu)

V. Sridharan
27-01-2020

2. Dr. Akashdeep (Member)
(External Subject Expert, CSIR-CSIO, Chandigarh)

Akashdeep
27.1.20

3. Dr. R. T. Durai Prabhakaran (Special Invitee)
(External Subject Expert IIT-Jammu)

R. T. Durai Prabhakaran
27.1.2020

4. Dr. Vishal Singh (Member)
(Department of Nanosciences & Materials, C U-Jammu)

Vishal Singh
27.01.2020

5. Dr. Princy Gupta (Member)
(Department of Chemistry & Chemical Science, C U-Jammu)

Princy Gupta
27/1/2020

6. Dr. Tanuj Kumar (Special Invitee)
(Department of Nanosciences & Materials, C U-Jammu)

Tanuj Kumar
27-01-20

7. Dr. Pragati Kumar (Special Invitee)
(Department of Nanosciences & Materials, C U-Jammu)

Pragati Kumar
27/01/2020

8. Dr. Pawan Kumar (Special Invitee)
(Department of Nanosciences & Materials, C U-Jammu)

Pawan Kumar
27/01/20

केंद्रीय विश्वविद्यालय जम्मू
Central University of Jammu

Department of Nano Sciences and Materials

5th Board of Studies

Minute
Name



27th January, 2020

- Rahya-Suchani (Bagla), District-samba, Jammu -
181143 (J&K), India

Agenda of Meeting

- Item No.1:** To approve the minutes of Department Research committee (DRC) of the Department of Nanosciences & Materials held on 15-01-2020 regarding the allotment of supervisor for the students admitted for Ph D programme during academic session 2018-2019 and approval of their Synopsis.
- Item No.2:** To approve the syllabus for Foundation Course in M. Sc Material Science and Technology for Semester IV.
- Item No.3:** To review and modify the syllabus & course matrix of M. Sc Material Science and Technology from the academic session 2020-2021.
- Item No.4:** To adopt the course for awareness about publication ethics and publication misconducts entitled "**Research and Publication Ethics**" for PhD Course Work as approved by UGC with reference to D.O.No.F-1/2018 (Journal/CARE) Dated: December, 2019 from the academic session 2020-2021.

Syllabus for Foundation Course in M. Sc Material Science & Technology for Semester IV

Course Title: Research Skills
Course Code: PGMST4F002T
Credit: 2 (2-0.-0)

Research Methodology: An Introduction

Meaning of Research, Objectives of Research, Motivation in Research, Types of Research, Research Approaches, Significance of Research, Research Methods versus Methodology, Research and Scientific Method, Importance of Knowing How Research is Done, Research Process, Criteria of Good Research, Problems Encountered by Researchers in India

Defining the Research Problem and Research Design:

What is a Research Problem?, Selecting the Problem, Necessity of Defining the Problem, Technique Involved in Defining a Problem, Meaning of Research Design, Need for Research Design, Features of a Good Design, Important Concepts Relating to Research Design, Different Research Designs, Basic Principles of Experimental Designs

Scientific and Technical Writing: Role and importance of communication, Letter writing and official correspondence, Oral and poster presentation in meetings, Seminars, Group discussions, Scientific writing, Technical report writing, Making R&D proposals, Dissertation/Thesis writing,

References:

1. C. R. Kothari, Research Methodology, Methods and Techniques, 2004, Edition 2, New Edge International (P) Limited Publishers

File
Supalla

R. S. Singh
Ramesh



Department of Nanosciences and Materials
 केंद्रीय विश्वविद्यालय जम्मू
 CENTRAL UNIVERSITY OF JAMMU
 Rahya-Suchani (Bagla), District-samba, Jammu -181143 (J&K), India

**Syllabus & course matrix of M. Sc Material Science and Technology
 from the academic session 2020-2021**

Departmental Core Course	DCC
Discipline Specific Elective	DSE
Departmental Core Practical	DCP
Interdisciplinary course	IDC
Foundation Compulsory/Ability Enrichment	FC/ (AE)
Foundation Elective/Skill Based	FE/ (SB)

Semester I

Sr. No.	Course Code	Course Name	Course type	Credits	Contact hours per week (L-T-P)
1.	PGMST1C001T	Crystal Structures and Properties of Materials	DCC	4	3-1-0
2.	PGMST1C002T	Quantum Mechanics	DCC	4	3-1-0
3.	PGMST1C003T	Principal Properties of Materials	DCC	4	3-1-0
4.	PGMST1E001T / PGMST1E002T	Polymer Science / Semiconductor Devices	DSE	4	3-1-0
5.	PGMST1C001L	Laboratory-I	DCP	4	0-0-8
6.	PGMST1FC001T	Experimental Techniques in Material Science-I	FC	4	3-1-0
Total				24	12-5-8

Handwritten signatures and dates:
 2/11/19

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 R. S. Singh
 2/11/19

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Semester II

Sr. No.	Course Code	Course Name	Course type	Credits	Contact hours per week (L-T-P)
1.	PGMST2C001T	Thermal Behavior of Materials	DCC	4	3-1-0
2.	PGMST2C002T	Nanomaterials	DCC	4	3-1-0
3	PGMST2C003T	Fundamentals of Spectroscopy in Material science	DCC	4	3-1-0
4.	PGMST2E001T/ PGMST2E002T/ PGMST2E003T	Defects and Transport Phenomenon in Solids / Advanced Oxide Materials/Experimental Techniques in Material Science-II	DSE	4	3-1-0
5.	PGMST2C001L	Laboratory-II	DCP	4	0-0-8
6.	PGMST2FC001T	Thin Film Deposition and Technology	FC	4	3-1-0
7.	Interdisciplinary course offered by other department		IDC	4	3-1-0
Total				28	18-6-8

Semester III

Sr. No.	Course Code	Course Name	Course type	Credits	Contact hours per week (L-T-P)
1.	PGMST3C001T	Advanced Materials	DCC	4	3-1-0
2.	PGMST3C002T	Advances in Crystal Growth	DCC	4	3-1-0
3	PGMST3C003T	Biomaterials	DCC	4	3-1-0
4.	PGMST3E001T / PGMST3E002T	Composite Materials and Design/Smart and Responsive Materials	DSE	4	3-1-0
5.	PGMST3C001L	Laboratory-III	DCP	4	0-0-8
6.	Interdisciplinary course offered by other department		IDC	4	3-1-0
Total				24	15-5-8

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6

Semester IV

Semester IV of M Sc in Material science & Technology is completely dedicated for project dissertation of sixteen (16) credits.

Sr. No.	Course Code	Course Name	Course type	Credits	Contact hours per week (L-T-P)
1.	PGMST4C 00L	Dissertation	DCP	16	0-0-32
Total				16	0-0-32

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Course title: Crystal Structures and Properties of Materials

Course Code: PGMST1C001T

Credit: 4

LTP: 3-1-0

Unit I Crystal structure

Crystal structures and lattices with basis, Symmetry properties, Packing fractions, Miller indices, Common crystal structures, Reciprocal lattice, Brillouin zones, X-ray diffraction by a crystal and their equivalence, Laue equations, Ewald construction, Brillouin interpretation, Crystal and atomic structure factors, Structure analysis: Types of probe beam, X-ray scattering from solid including Laue conditions and line intensities, Rotating crystal and powder methods.

Unit II Lattice dynamics and thermal properties

Classical theory of lattice dynamics: Vibrations of crystals with mono-atomic and di-atomic basis's, Dispersion relations, Group velocity, Acoustical and optical modes; Phonons: Quantization of lattice vibrations, Phonon momentum, Inelastic scattering of neutrons by phonons; Thermal properties: heat capacity, Density of states, Normal modes, Debye and Einstein models for specific heat.

Unit III Electronic properties of solids-I

Free electron gas model: Electrical conductivity and Ohm's law, Density of states, Heat capacity, Fermi energy, Effect of temperature, Effective mass, Band theory of solids: Periodic potential, Bloch's theorem, Kronig-Penney model, approximate solution near a zone boundary.

Unit IV Electronic properties of solids-II

Periodic, Extended and reduced zone schemes of energy band representation. Construction of Fermi surfaces in Brillouin zones, Methods for calculations of energy bands and their features, Tight binding method and its application to simple cubic (SC) and body centred cubic (BCC) structures.

Unit V Superconductivity

Introduction to Superconductivity, Effect of magnetic field, Meissner effect, Type I and type II superconductors, Review of thermodynamic properties of superconducting materials, Isotope effect; London equation, Coherence length, BCS theory of superconductivity, Flux quantization in a superconducting ring; DC and AC Josephson effects; Macroscopic long-range quantum interference; High T_c superconductors.

Text Books:

1. Kittel, C., Introduction to Solid State Physics, Wiley.
2. Callister, W.D., Materials Science & Engineering: An Introduction, Wiley & Sons (2001).

References Books:

1. Raghvan, V., Materials Science & Engineering, PHI (1998).
2. Smith, W., Principles of Materials Science and Engineering, McGraw Hill (1990).

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8

Course title: Quantum Mechanics

Course Code: PGMST1C002T

Credit: 4

LTP: 3-1-0

Unit I

Wave function, Properties of Wave Function, Probability Density and Probability, Conditions for Physical Acceptability of wave Functions, Normalization, Linearity and Superposition Principles, Eigen values and Eigen functions, Expectation Values, Wave Function of a Free Particle, Basic Postulates and Formalism: Energy, Momentum and Hamiltonian Operators, Time- Independent Schrodinger Wave Equation for Stationary States.

Unit II

Normalized one and three dimension wave packets, Wave description of Particles by Wave Packets, Group and Phase Velocities and Relation between them, Schwartz's inequality uncertainty principle, application of uncertainty principle, Expectation values of physical observables and dynamical quantities, Ehrenfest theorem, Bohr's correspondence principle, Principle of complementarities, coordinate and momentum representations, significance of momentum wave function.

Unit III

Eigen Functions and Eigen values for a Particle in a One Dimensional Box, Bound State Problems: General Features of a Bound Particle System, (1) One Dimensional Simple Harmonic oscillator: Energy Levels and Wave Functions, Zero Point Energy; (2) Quantum Theory of Hydrogen Atom: Particle in a Spherically Symmetric Potential, Schrodinger Equation, Separation of Variables, Radial Solutions and Principal Quantum Number, Orbital and Magnetic Quantum Numbers, Quantization of Energy and Angular Momentum, Space Quantization; Electron Probability Density, Radiative Transitions, Selection Rules.

Unit IV

Scattering Problems in One Dimension: Finite Potential Step: Reflection and Transmission, Stationary Solutions, Probability Current, Attractive and Repulsive Potential Barriers; Quantum Phenomenon of Tunneling: Tunnel Effect, Tunnel Diode (Qualitative Description); Finite Potential Well (Square Well).

Unit V

Orbital angular moment, General formulism, Matrix representation, Geometrical representation for angular momentum, Spin angular momentum, experimental evidence of spin, General theory of spin, spin $\frac{1}{2}$ and pauli matrix, Commutator algebra .

Text Books:

1. Zettili, N., Quantum Mechanics; Concept and Applications, John Wiley & Sons, LTD
2. Eisberg, R., and Resnick, R., Quantum Physics of Atoms, Molecules, Solids, Nuclei, and Particles, Second Edition, John Wiley & Sons, LTD.

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References Books:

3. Schiff, L.I., Quantum Mechanics, 3rd Edition, (McGraw Hill Book Co. New York 1968). Smith, W., Principles of Materials Science and Engineering, McGraw Hill (1990).
4. Merzbacher, E., Quantum Mechanics, 3rd Edition, (John Wiley & Sons, Inc 1997)

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Course title: Principal Properties of Materials

Course Code: PGMST1C003T

Credit: 4

LTP: 3-1-0

Unit I Mechanical properties:

Stress and strain behavior, Elastic properties of materials, Plastic deformation, tensile strength and modulus of elasticity, compressive and shear deformation, hardness, creep, fracture, fatigue.

Unit II Transport properties:

Introduction to transport properties, Boltzmann transport equation, Sommerfield theory of electrical conductivity, Relaxation time, mean free path, thermal conductivity, Hall effect, Hall voltage, Hall coefficient, Mobility and Hall angle, cyclotron resonance, Drift velocity, scattering by phonons, thermoelectric effect

Unit III Dielectric properties of solids:

Polarization and susceptibility, Local field, Dielectric constant, Sources of Polarizability, Electronic, ionic and dipolar polarizability, Frequency dependence of polarizability, Ferroelectricity, Piezoelectricity

Unit IV Magnetic properties:

Origin of magnetism, Magnetic terminology, types of magnetism, Para-magnetism, diamagnetism, Langevin's classical theory dia- & para-magnetism, ferro and ferrimagnetism, Weiss theory of ferromagnetism, Anti-ferromagnetism

Unit V Optical properties:

Refractive index, absorption and transmission of electromagnetic radiation in solids, electro-optic and magneto-optic materials, luminescence, thermal emission, photo-conductivity

Text Books:

1. Puri, R. K., and Babbar, V.K., Solid State Physics, S. Chand; 2nd edition, 2003
2. Pillai, S.O., Solid State Physics, Publisher: New Age International Pvt Ltd; Seventh edition 2015
3. Sirdeshmukh, D., Sirdeshmukh, L., Subhadra, K. G., Sunandana, C. S., Electrical, Electronic and Magnetic Properties of Solids, Springer; 2014 edition, 2014
4. Callister, W. D., Materials Science and Engineering, Wiley Eastern Limited, 1984.

Reference books:

1. White, M. A., Physical Properties of Materials, Publisher: CRC Press; 2 edition (22 June 2011)
1. Kjelle, M. M., The Properties of Solids, PowerkidsPr (31 August 2006)

Course title: Polymer Science
Course Code: PGMST1E001T
Credit: 4
LTP: 3-1-0

Unit I Introduction to polymers

Basic concepts of high polymer system, macromolecular concept, structural feature of polymer, length to diameter ratio, classification, structure property relationship, Step reaction polymerization, radical chain polymerization, ionic and co-ordination polymerization, copolymerization.

Unit II Polymer chemistry

Polymerization techniques like as bulk polymerization, solution polymerization, suspension polymerization, emulsion polymerization, melt polycondensation, solution poly condensation. Chemical bonds, polymer solubility, chemical reactivity, effect of thermal, photochemical and high energy radiation, aging and weathering, diffusion and permeability, toxicity, configuration of polymer chains.

Unit III Structure and morphology

Crystal structure of polymer, morphology of crystalline polymer, crystallization and melting, polymer single crystals, lamellae, disorder & nature of the fold surface, crystallization from melt, degree of crystallization, crystallites, structural regularity and crystallizability, factors affecting crystallisability, helix structure, spherulites.

Unit IV Properties of polymers

Glass transition temperature, melting temperature, measurement methods, factors affecting glass transition temperature and properties, Heat distortion temperature, Rheoproperties such as stress and strain, ideal elastic solid, Newtonian and non-Newtonian fluid, apparent viscosity, the power law, molecular hole concept, waissenberg effect, measurement of flow, melt fracture, time dependent flow, viscoelastic material and its mechanical model, relaxation, hysteresis and creep.

Unit V Industrial applications

Introduction to polymer industry, Classification of industrial polymers, Conventional to modern industrial outlook of polymers, environmental, energy and biological Industrial applications of polymers, Industrial polymer management; ethical, safety, health and environmental issues.

Text Books

1. Gowariker, V. R. Polymer Science, 2016
2. Billmeyer, Text book of Polymer Science, John Wiley & Sons, 2007

Reference Books

3. Ghosh, P., Polymer Science and Technology: Plastics, Rubbers, Blends and Composites, Third Edition, McGraw Hill Education 2011

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4. Young, R. J., and Lovell, P. A., Introduction to polymers, *Polymer International*,
Chapman and Hall, 1991

Course title: Semiconductor Devices

Course Code: PGMST1E002T

Credit: 4

LTP: 3-1-0

Unit I Microscopic study of solid state devices

Allowed and forbidden energy bands, Direct and indirect band gap semiconductor, intrinsic carrier concentration, impurity conductivity, Density of States Function, Charge Carriers in Semiconductors, Dopant atoms and energy Levels, Position of Fermi Level, Excess Carrier Lifetime, Surface effects.

Unit II Bipolar devices I

PN- Junction, Zero Applied Bias, Reverse Applied Bias, Non-uniformly Doped Junctions, PN-Junction Diode, Generation- Recombination Currents, Junction Breakdown, Tunnel Diode, Schoktty Diode Metal Semiconductor Ohmic Contacts.

Unit III Bipolar devices II

Bipolar Junction transistor (BJT) action, Minority Carrier Distribution, Low frequency common base current gain, Frequency limitation.

Unit IV Unipolar devices

JFET, Knee Voltage, Two terminal MOS structure, Capacitance-Voltage characteristics, Basic MOSFET operation, Frequency limitations.

Unit V Optoelectronic devices

Solar cells (Solar radiation and ideal conversion efficiency p-n junction solar cell, heterojunction and thin film solar cell), Light Emitting Diode, Photo detector (photoconductor, photodiode, photo transistor).

Text Books:

1. Neamen, D. A. Semiconductor Physics and Devices: Basic Principles, 4th edition, McGraw Hill, 2012
2. Sze, S. M., Physics of Semiconductor Devices, 3rd edition, Wiley, 2008

Reference Books

1. Streetman, B.G., Banerjee, S., Solid State Electronic Devices, 6th edition, Prentice Hall Series, 2006
2. Boylestad, R. L. Electronic Devices and Circuit Theory, 10th edition, Pearson Education India, 2009

Course title: Experimental Techniques in Material Science-I

Course Code: PGMST1FC001T

Credit: 4

LTP: 3-1-0

UNIT I X-ray diffraction techniques

Production of x-rays, its properties and hazards, Bragg's law, Laue techniques, Debye-Scherrer techniques. Powder method for crystalline and amorphous solid, Determination of crystal structure, line broadening, particle size, residual stress measurement, Phase identification, phase quantification, Single crystal x-ray Diffraction techniques, chemical/ elemental analysis by X-ray Fluorescence.

UNIT II Electron microscopy

Principles and operation of electron microscope, Geometry of electron microscopes, Specimen Handling and preparation, Secondary electron image, Backscattered electron image, Example of electron micro-graphs and fractography studies, Field emission –Scanning electron microscope (FESEM), Transmission Electron microscopy (TEM).

UNIT III Scanning probe microscopy

Principles and operation of scanning probe microscopes: Scanning Tunnelling Microscope, Atomic Force Microscope, Magnetic and Piezo-Force microscopy, confocal microscopy.

UNIT IV Thermal analysis

Thermo Gravimetric Analysis, Differential Thermal Analysis, and Differential Scanning Calorimetry: Operating principles and their applications; Quantitative Aspects of TG, DTG, DTA and DSC curves and their Interpretation, Determination of Phase Diagram.

UNIT V Photometry and spectroscopy

Basics of UV and visible Spectroscopy, Electronic transitions, Beer-Lambert Law, visible spectrum and colour; Principle and working of UV/VIS Spectrophotometer, Infrared Spectroscopy: Instrumentation and sample handling, selection rule, types of bonds, absorption of common functional group, overtones, applications of FT-IR and IR Spectroscopy.

Text Books:

1. Wachtman, J.B., Kalman, Z.H., Characterization of Materials, Butterworth-Heinemann, (1993)
2. Kauffmann, Characterization of Materials, Wiley

Reference books:

1. Cullity B. D, Elements of X-ray Diffraction., 4th Edition, Addison Wiley, 1978
2. Goodhew, P.J., and Humphreys, F.J., Electron Microscopy and Analysis, Taylor & Francis, 2nd edition, 1997

Course title: Laboratory-1
Course Code: PGMST1C001L
Credit: 4
LTP: 0-0-8

1. Hall-Effect measurement
2. Band-Gap of Semiconductor diode
3. Frank-Hertz experiment
4. Regulated power supply using Zener Diode
5. Photodiode
6. Four probe method Determination of resistivity of Germanium crystal at different temperature and estimation of energy band gap.
7. To study the intensity response of semiconductor materials
8. Silicon Control Rectifier (SCR) characteristics
9. Resistivity measurement of Superconducting Material
10. Study of thermo luminance property of materials

Students assigned the general laboratory work will perform at least seven (07) experiments of the above mentioned list. Experiments of equal standard may be added.

***Head of the department is authorized to add/delete/modify any other related experiments if such a need arise in future.**

References:

1. Worsnop, B.L., and Flint, H.T., Advanced Practical Physics for Students Methuen 1927.
2. Melissinos, A. C. and Napolitano, J., Experiments in Modern Physics, Academic Press.

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Course title: Thermal Behavior of Materials

Course Code: PGMST2C001T

Credit: 4

TP 3-1-0

Unit I Classical and quantum statistics

Micro canonical, canonical and grand canonical ensembles, Maxwell Boltzmanns, Bose-Einstein and Fermi-Dirac statistics, Comparison of MB, BE and FD statistics.

Unit II Application of statistics

Planck's Radiation law, Stefan-Boltzmann law, Einstein model of a solid, Bose condensation, Classical partition function and classical ideal gas, Equipartition theorem, Semiconductor statistics, Statistical equilibrium of electrons in semiconductors.

Unit III Thermodynamics-I

Laws of thermodynamics, internal energy, Enthalpy, Entropy, Helmholtz and Gibbs free energies, Thermodynamic relations, Euler equation, Maxwell's relations and applications,

Unit IV Thermodynamics-II

Chemical Potential, Gibbs phase rule, phase equilibria (single and multicomponent systems), Clausius-Clayperon equation, law of mass action, first order phase transition in single component systems, Second order phase transition

Unit V Heat and mass transfer

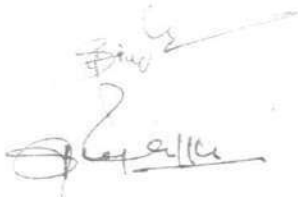
Basic concepts of conduction, convection and radiation, Hydrodynamics, Dimensionless numbers, Rayleigh's number, Reynold's number, Heat balance equation, Mass transfer convective flow, diffusion, Fick's law, diffusion coefficient-mass transfer coefficient, Application to melt growth

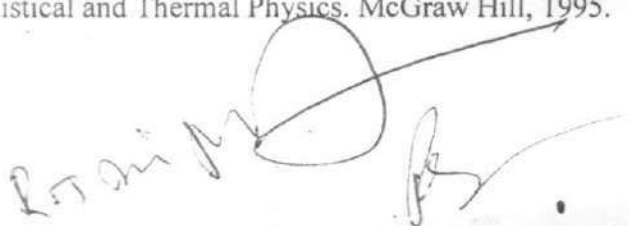
Text Books:

1. Lokanathan, S., and Gambhir, R. S., Statistical and Thermal Physics: An Introduction by Prentice-Hall of India Private Limited.
2. Gupta, M. C., Statistical Thermodynamics. Wiley Eastern Ltd., New Delhi, 1993.

References:

1. Engel, T., and Reid, P., Thermodynamics, Statistical Thermodynamics & Kinetics, Pearson Education, Inc. 2006.
2. Callen, H.B., Thermodynamics and an Introduction to Thermostatistics. Wiley India Pvt. Ltd. 2014.
3. Holman, J.P., Heat transfer. Tata McGraw Hill, New Delhi, 2008.
4. Reif, F., Fundamentals of Statistical and Thermal Physics. McGraw Hill, 1995.





Course title: Nanomaterials
Course Code: PGMST2C002T
Credit: 4
LTP: 3-1-0

Unit 1 Introduction & background

Introduction to Nanoscience and Technology, Insight and Intervention in Nanoworld, Historical Background, Recent Advances and Future Aspects, Application of Nanoscience and Technology in Different Field, Agriculture, Medical, Environmental, Defence, Food, Textiles, Consumer Etc.

Unit 2 Nanomaterials

Nanoscale materials (introduction, properties of nanomaterials, brief discussion of nanocrystals and clusters, fullerenes, carbon nanotubes, dendrimers, nano wires, nanocomposites), Quantum confinement, Band structure of solids: Free electron theory (qualitative idea) and its features, Idea of band structure, insulators, semiconductors and conductors, Energy band gaps of semiconductors, Effective masses and Fermi surfaces, Localized particles, Donors, Acceptors and Deep traps, Mobility, Excitons, Density of states, Variation of density of states with energy and Size of crystal.

Unit 3 Synthesis of nanomaterials

Top-down and Bottom-up approach, Synthesis methods: physical, chemical and biological methods of synthesis, Sol-Gel and Ball Milling methods, Properties of materials & nanomaterials, research and development in synthesis approach as per nonmaterial's applications, role of size in nanomaterials, Nanomaterials structures, two dimensional quantum systems, Quantum well, Quantum wire and Quantum dot, Fabrication techniques.

Unit 4 Characterizations tools and Role of nanoscience in allied fields

Spectroscopic and Microscopically Techniques, Characterizations Tools for Thin film and hybrid materials, Role of nanoscience in Information Technology (Bioinformatics), Nanobiotechnology, Nano and Micro-electromechanical systems and Sensors (biosensors).

Unit 5 Ethical issues related to nanoscience and technology

Safety, Health and Environmental Issues, Societal Implications, Miscellaneous Ethical Issues related to Nanoscience and Technology:

Text Book

1. Poole, C. P., Owens, F. J., Introduction to Nanotechnology, John Wiley & Sons, 2003
2. Kulkarni, Sulabha K., Nanotechnology –Principle and practices, 3rd Edition, Capital Publishing Company, 2015

Reference Books

3. Nalwa, H. S., Encyclopaedia of nanoscience and technology, American Scientific Publisher, 2004
4. Folch, A., Introduction to BioMEMS, CRC Press, 2012

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Date: June 22, 2020

Minutes of Meeting of the BOS held on 22/06/2020 in Department of Computer Science and Information Technology, Central University of Jammu, Bagla (Rahya Suchani)-J.K. through online mode (Google Meet).

The following members were present:

- | | |
|--------------------------|-------------------------|
| 1. Mr. Devesh | Member |
| 2. Mr. Rakesh Kumar | Member Expert(online) |
| 3. Mr. Manish Kumar | Member Expert(online) |
| 4. Dr. Yashwant Singh | Chairperson |
| 5. Dr. Ajay Kumar Sharma | Member |
| 6. Dr. Arvind Selwal | Member |
| 7. Dr. Bahvna Arora | Co-opted member(online) |
| 8. Mr. Neerendra Kumar | Co-opted member(online) |
| 9. Dr. Deepti Malhotra | Co-opted member(online) |
- Dr. Mukesh Negi (Member) could not attend the meeting due to prior engagement

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The members of the committee discussed various agenda items. Following are the recommendations with respect to different agenda items:

1. The committee recommended the titles and synopses of seven Ph.D scholars approved by DRC in the meeting held on dated 11-09-2019, 18-12-2019 and 12-06-2019 as given in **Annexure-I**.
2. The members of the committee recommended the panel of experts for evaluation of M.Tech. (Computer Science and Technology) Dissertation/theory/Practical examination for the session 2020-21 as given in **Annexure-II**.
3. After deep deliberations and discussions, the members recommended the approval of new Ph.D. course work scheme and detailed syllabus after addition of two-credit course for awareness about publication ethics and publication misconduct entitled "Research and Publication Ethics (RPE)" for the PhD course work made compulsory by UGC, w.e.f. July 2020 as given in **Annexure-III and IIIa**.
4. After discussions, the committee unanimously recommended to continue the already approved scheme and detailed syllabus (2019-20) of M.Tech. Computer Science and Technology for the semester 1st, 2nd, 3rd and 4th w.e.f. the session 2020-21 to session 2021-22.
5. The committee recommended the approval of Research Advisory Committee (RAC) for individual Ph.D candidates admitted in the Department as given in **Annexure-IV**.
6. The members of the committee also recommended the approval of change for the student's of M.Tech which was mandatory earlier for publication in the Journal indexed in Scopus/UGC to Scopus/UGC Indexed Journal/International Conference Proceedings Full Paper/Book Chapter in International Book (published/accepted).
7. The committee considered and approved the case of Mr.Amit Sharma, Registration No.0150519, PhD scholar for registration as a part time PhD candidate as per University ordinance 6A (para 4) under the category of in-service employee in Higher Education Institution University of Jammu with minimum of two years regular service.
8. The committee considered and approved the case of Mr.Deep Kumar Bangotra, Registration No.0150518, PhD scholar in-service candidate in Higher Education Govt. of J&K for converting from full time to part time mode of PhD after completion

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of two years residency period in the Department during the period sanctioned leave 24-08-2018 to 23-08-2020.

9. The committee recommended that the IDC course in M.Tech. 1st and 2nd semester by the student will be taken from the available courses in MOOC-SWAYAM/NPTEL platform which are updated from time to time.
10. The Committee also authorised the Chairperson to take decision on urgent matters in anticipation to the next Board of Studies.

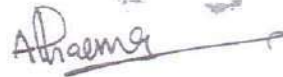
The meeting ended with vote of thanks to the chair.



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No. CUJ/DSBS/2020/792
Date: 30/08/2020.



DEPARTMENT OF COMPUTER SCIENCE & IT
Central University of Jammu

रावा-सूचानी (बागला), जिला सांबा -181143, जम्मू (जम्मू एवं कश्मीर)
Rahya-Suchani (Bagla), District Samba-181143, Jammu (J &K)

Date: June 22, 2020

Agenda of the BoS meeting to be held on 22/06/2020 (03:00 PM) in the Department of Computer Science and Information Technology, Central University of Jammu, Bagla (Rahya Suchani)-181143 (through Google meet)

Agenda 1:

Approval of PhD titles & Synopses of following PhD scholars:

SN	Regn. No	Name of The Candidate	Proposed Title	PhD Supervisor	Name of External Expert	Date of DRC
1	0150518	Deep Kumar Bangotra	Intelligent and Secure Opportunistic Routing in Wireless Sensor Networks	Dr. Yashwant Singh (Supervisor) Dr. Arvind K. Selwal (Co-Supervisor)	Prof. Vinod Sharma, University of Jammu	11-09-2019
2	0250518	Pooja Anand	Intelligent and Secure Vulnerability Assessment Framework for Internet of Things and Embedded Devices	Dr. Yashwant Singh (Supervisor) Dr. Arvind K. Selwal (Co-Supervisor)	Prof. Vishal Goyal, Punjabi University Patiala	18-12-2019
3	0150519	Amit Sharma	On Intelligent Detection of Microbes from Microbial Images	Prof. Devanand	Prof. Manu Sood, Himachal Pradesh University Shimla	12-06-2020
4	0250519	Bharti Rana	Efficient Data Routing in Distributed Heterogeneous Internet of Things (IoT) Networks	Dr. Yashwant Singh		
5	0350519	Niharika Sharma	Development of Intelligent Framework for Network Anomaly Detection (I-NAD)	Dr. Bhavna Arora		
6	0450519	Deepika Sharma	Modeling of Intelligent Frameworks for Presentation Attack Detection in Biometric Systems	Dr. Arvind Selwal	Prof. Vikram Singh, Ch. Devi Lal University, Sirsa	12-06-2020
7	0550519	Mehak Mengi	Development of Automated Diagnostic Assessment Framework for Socio-behavioural Disorders	Dr. Deepti Malhotra		

Agenda 2:

Approval of a panel of experts for evaluation of M.Tech. (Computer Science and Technology) dissertation/practical exam/theory.

Agenda 3:

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Approval of new scheme and detailed syllabus of PhD course work after addition of two-credit course for awareness about publication ethics and publication misconduct entitled "Research and Publication Ethics (RPE)" which is made compulsory by UGC for research scholars.

Agenda 4:

Approval of scheme and detailed syllabus of M.Tech. Computer Science and Technology for the semester 1st, 2nd, 3rd and 4th w.e.f. July 2020 the same as approved in the last BoS.

Agenda 5:

Approval of formation of Research Advisory Committee (RAC) for individual PhD candidates instead of RDC.

Agenda 6:

Approval of change in M.Tech student's mandatory Journal (Scopus/UGC) publication to Scopus/UGC Indexed Journal/International Conference Proceedings Full Paper/Book Chapter in International Book.

Agenda 7:

To consider the case of Mr.Amit Sharma, Registration No:0150519, PhD scholar for registration as a part time PhD candidate as per University ordinance 6A (para 4) under the category of in-service employee in Higher Education Institution University of Jammu with minimum of two years regular service.

Agenda 8:

To consider the case of Mr.Deep Kumar Bangotra, Registration No.0150518, PhD scholar in-service candidate in Higher Education Govt. of J&K for converting from full time to part time mode of PhD after completion of two years residency period in the Department during the period sanctioned leave 24-08-2018 to 23-08-2020.

Any other agenda item with the permission of the chair.

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Annexure-I

Details of PhD scholar's and their PhD titles approved by DRC

SN	Regn. No	Name of The Candidate	Thesis Title	PhD Supervisor	Name of External Expert	Date of DRC
1	0150518	Deep Kumar Bangotra	Intelligent and Secure Opportunistic Routing in Wireless Sensor Networks	Dr. Yashwant Singh (Supervisor) Dr. Arvind K. Selwal (Co-Supervisor)	Prof. Vinod Sharma, University of Jammu	11-09-2019
2	0250518	Pooja Anand	Intelligent and Secure Vulnerability Assessment Framework for Internet of Things and Embedded Devices	Dr. Yashwant Singh (Supervisor) Dr. Arvind K. Selwal (Co-Supervisor)	Prof. Vishal Goyal, Punjabi University Patiala	18-12-2019
3	0150519	Amit Sharma	On Intelligent Detection of Microbes from Microbial Images	Prof. Devanand	Prof. Manu Sood,	12-06-2020
4	0250519	Bharti Rana	Efficient Data Routing in Distributed Heterogeneous Internet of Things (IoT) Networks	Dr. Yashwant Singh	Himachal Pradesh University Shimla	
5	0350519	Niharika Sharma	Development of Intelligent Framework for Network Anomaly Detection (I-NAD)	Dr. Bhavna Arora		
6	0450519	Deepika Sharma	Modeling of Intelligent Frameworks for Presentation Attack Detection in Biometric Systems	Dr. Arvind K. Selwal	Prof. Vikram Singh, Ch. Devi Lal University, Sirsa	12-06-2020
7	0550519	Mehak Mengi	Development of Automated Diagnostic Assessment Framework for Socio-behavioural Disorders	Dr. Deepti Malhotra		

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PH.D. Computer Science and Information Technology, 2020-21

Research and Publication Ethics

Course Code:

Course Title: RESEARCH AND PUBLICATION ETHICS

Semester: PhD Coursework

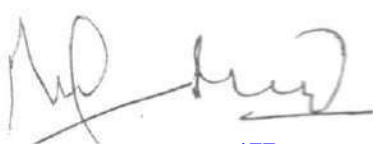
Credits: 02

COURSE OBJECTIVES

- Students should be able understand the basics of philosophy of science and ethics, research integrity and publication ethics.
- To make students aware of research misconduct and predatory publications.
- To familiarize the students with Indexing and citation databases, open access publications, research metrics (citations, h-index, impact factor, etc.) and plagiarism tools.

Contents	
Unit - I	
<p>Philosophy and Ethics: Introduction to philosophy: definition, nature and scope, concept, branches, Ethics: definition, moral philosophy, nature of moral judgements and reactions.</p> <p>Scientific Conduct: Ethics with respect to science and research, intellectual honesty and research integrity, Scientific Misconducts: Falsification, Fabrication and Plagiarism (FFP), Redundant publications: duplicate and overlapping publications, salami slicing, Selective reporting and misrepresentation of data.</p>	
Unit - II	
<p>Publication Ethics: Publication ethics: definition, introduction and importance, Best practices/ standards setting initiatives and guidelines: COPE, WAME, etc., Conflicts of Interest, Publication misconduct: definition, concept, problems that lead to unethical behaviour and vice versa, types, Violation of publication ethics, authorship and contributor ship, Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.</p> <p>Open Access Publishing: Open access publications and initiatives, SHERPA/ RoMEO online resource to check publisher copyright & self-archiving policies, Software tool to identify predator publications developed by SPPU, Journal finder/ journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.</p>	
Unit - III	
<p>Publication Misconduct: Group Discussions: subject specific ethical issues, FFP, authorship, Conflicts of Interest, Complaints and appeals: examples and fraud from India and abroad, Software tools: Use of plagiarism software like Turnitin, Urkund and other open source software tools.</p> <p>Databases and Research Metrics: Databases: Indexing databases, Citation databases: Web of Science, Scopus, etc., Research Metrics: Impact Factor of Journal as per Journal Citation Report,</p>	

Department of Computer Science and Information Technology, Central University of Jammu




SN, P, SJR, IPI, Cite Score, Metrics: h-index, g index, i10 index, altmetrics

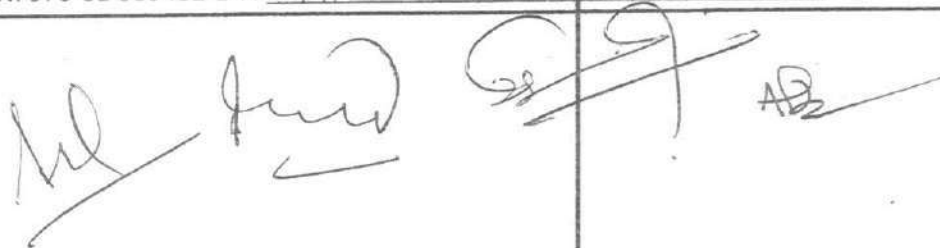
COURSE OUTCOMES

After completion of course, students would be able to:

1. describe and apply theories and methods in research integrity and publication ethics.
2. know about the ethical vetting, scientific misconduct, and predatory publications.
3. know about Indexing and Citation Databases, Open Access Publications, Research Metrics (citations, h-index, impact factor, etc.) and Plagiarism Tools.

TEXT/REFERENCES BOOKS

4. Bird, A. (2006). *Philosophy of Science*. Routledge.
5. MacIntyre, Alasdair (1967). *A Short History of Ethics*. London.
6. P. Chaddah. (2018). Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN: 9789387480865.
7. National Academy of Sciences, National Academy of Engineering and Institute of Medicine. (2009). *On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition*. National Academies Press.
8. Resnik, D. B. (2011). What is ethics in research & why is it important. *National Institute of Environmental Health Sciences*, 1-10. Retrieved from <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm>.
9. Beall, J. (2012). Predatory publishers are corrupting open access. *Nature*, 489(7415), 179-179. <https://doi.org/10.1038/489179a>
10. Indian national Science Academy (INSA), Ethics in Science Education, Research and Governance (2019), ISBN: 978-81-939482-1-7. <http://www.insaindia.res.in/pdf/Ethics Book.pdf>

The block contains several handwritten signatures and initials in black ink. From left to right, there is a signature that appears to be 'M', another signature that is less legible, a signature that looks like 'S', and a signature that looks like 'AD'. There are also some scribbles and lines around these signatures.

Scientific Computing and Tools

Course Code:

Course Title: SCIENTIFIC COMPUTING AND TOOLS

Semester: PhD Coursework

Credits: 02

COURSE OBJECTIVES

- Students should be able to understand the scientific computing programming language with Python language.
- To familiarize students with advanced paradigms of scientific computing languages like python and MATLAB
- To make students aware about various scientific simulation tools like NS2, CloudSim, Robotics Tools etc.
- Students should be able write scientific papers using LATEX tool.

Contents
<p>Unit - I</p> <p>Introduction to Python: Basic Characteristics of Python, Data Types, Variables, Operators and Branching, Core elements of programs: Bindings, Strings, Input/Output, IDEs, Control Flow, Iteration, Guess and Check ; Simple Programs Functions: Decomposition and Abstraction, Functions and Scope, Keyword Arguments, Specifications, Iteration vs Recursion, Inductive Reasoning, Files.</p>
<p>Unit - II</p> <p>Tuples and Lists in Python: Tuples, Lists, List Operations, Mutation, Aliasing, Cloning ; Dictionaries: Functions as Objects, Dictionaries, Example with a Dictionary, Fibonacci and Dictionaries, Global Variables; Debugging: Programming Challenges, Classes of Tests, Bugs, Debugging, Debugging Examples; Assertions and Exceptions, Assertions, Exceptions, Exception Examples.</p>
<p>Unit - III</p> <p>Overview of MATLAB: Basics, Variables, Matrix operations, Built-in functions, Controlling work flow, Basic input/output, Scripts and functions, Reading and writing data, Fitting a model to data, Recursive functions, random numbers and simulations, Solving differential equations, Plotting in 2D and 3D, Creating simple GUI in MATLAB.</p>

COURSE OUTCOMES

After completion of course, students would be able to:

- Students will be able writing scientific programs to implement advance algorithms.
- The students will be able to build GUI applications using MATLAB.

Department of Computer Science and Information Technology, Central University of Jammu

PH.D. Computer Science and Information Technology, 2020-21

- Students will be able write scientific paper in well structured formats of standard Journals.
- Students will be able to use scientific tools to simulate their algorithms/ techniques.
- Students will be able to write Python code to build machine learning models.
- The students will be to plot scientific graphs and draw effective diagrams using typical tools.

TEXT/REFERENCES BOOKS

11. Fundamentals of Python first Programmes by Kenneth A Lamberf. Copyrighted material Course Technology Inc. 1 st edition (6th February 2009).
12. Data Structures and Algorithms in Python by Michael T Goodrich and Roberto Tamassia, Micheal S Goldwasser, Wiley Publisher (2016).
13. Python Programming using problem solving Approach by Reema Thareja, Oxford University, Higher Education Oxford University Press; First edition (10 June 2017). ISBN-10: 0199480173.
14. Holly Moore, MATLAB® for Engineers, 3rd Edition, 2012, Pearson, New York.
15. William J. Palm III. 2010. Introduction to MATLAB® for Engineers. 3rd Edition. McGraw-Hill: New York, NY.
16. Amos Gilet. MATLAB An Introduction with Applications, Wiley india Pvt. Ltd, 2016
17. Musto Joseph, Engineering Computation: an Introduction Using Matlab and Excel - An Introduction Using MATLAB and Excel, 2017
18. Kottwitz Stefan .LaTeX Beginner's Guide. Packt Publishing Limited. 2015.
19. Gratzer George A , Practical LaTeX, Springer International Publishing AG.



Annexure-IIIa
Ph.D. Course-work
Computer Science and Information Technology
 Proposed scheme w.e.f. July 2020

Sr. No	Subject .	Credits	Marks
1	Research Methodology	4	100
2.	Scientific Computing and Tools	2	50
3	Research and Publication Ethics (RPE)	2	50
3.	Elective-I 1. Simulation and Modelling 2. Internet of Things (IoT) 3. Machine Learning 4. Information Security 5. Data Analytics and Data Science 6. Computing Systems for Robotics	4	100
4.	Elective-II 1. Wireless Sensor Networks 2. Natural Language Processing 3. Data Mining Techniques 4. Pattern Recognition 5. Digital Image Processing 6. Optimisation Techniques 7. SCADA system and Applications	4	100
	Total	16	400



Annexure-IV

Research Advisory Committee (RAC) of individual PhD Candidates admitted in the Department.

SN	Registration No	Name of the Candidate	Supervisor or Convener	HoD's Nominee	Dean's Nominee
1	0150516	Bhagyalakshmi	Dr. Deepti Malhotra	Dr. Arvind Selwal	Dr. Sanjay Sharma, Dept. of Maths.
2	0250516	Sonam Gandotra	Dr. Bhavna Arora	Dr. Deepti malhotra	Dr. Pavinder Singh, Dept. of Maths.
3	0350516	Rohini Mahajan	Prof. Devanand	Dr. Yashwant Singh	Dr. Ajay Sharma, Dept. of Maths.
4	0150518	Deep Kumar Bangotra	Dr. Yashwant Singh	Dr. Bhavna Arora	Dr. Sanjay Sharma, Dept. of Maths.
5	0250518	Pooja Anand	Dr. Yashwant Singh	Dr. Deepti Malhotra	Dr. Deep Singh, Dept. of Maths.
6	0150519	Amit Sharma	Prof. Devanand	Dr. Yashwant Singh	Dr. Suram Singh, Dept. of Physics.
7	0250519	Bharti Rana	Dr. Yashwant Singh	Dr. Arvind Selwal	Dr. Ajay Sharma, Dept. of Maths.
8	0350519	Niharika Sharma	Dr. Bhavna Arora	Dr. Deepti Malhotra	Dr. Sanjay Sharma, Dept. of Maths.
9	0450519	Deepika Sharma	Dr. Arvind Selwal	Dr. Deepti Malhotra	Dr. Tanuj Kumar Material Sc.
10	0550519	Mehak Mengi	Dr. Deepti Malhotra	Dr. Bhavna Arora	Dr. Deep Singh, Dept. of Maths





Yashwant singh <yashwant.csit@ujammu.ac.in>

Minutes of BoS Meeting held on 22-06-2020 through online mode

Messages

Yashwant singh <yashwant.csit@ujammu.ac.in>

Tue, Jun 23, 2020 at 3:12 PM

To: devanand pacha <devanand.csit@ujammu.ac.in>, rakeshkumar@kuk.ac.in, manishphd@rediffmail.com, Arvind
 Bawa <arvind.csit@ujammu.ac.in>, Bhavna arora <bhavna.csit@ujammu.ac.in>, Deepti malhotra
 <deepti.csit@ujammu.ac.in>, Neerendra kumar <neerendra.csit@ujammu.ac.in>, Ajay kumar
 <ajay.maths@ujammu.ac.in>
 Cc: jatinder chib <jatinder.chib@gmail.com>

Dear Sir/Madam

Greetings!!

Please find enclosed the corrected Minutes of Meeting along with annexures for your kind information.

Kindly revert to endorse the same. Also, external experts are requested to share your bank account details and PAN for payment of Honorarium.

Thanks and Regards

Dr. Yashwant Singh

Associate Professor & HoD

Department of Computer Science and Information Technology

Central University of Jammu, J&K, India-181143

Mobile No. +919418203623

E-Mail: yash2222k1@gmail.com

yashwant.csit@ujammu.ac.in

6 attachments

- ➔ BoS Minutes.pdf
521K
- ➔ Annexure I.pdf
596K
- ➔ Annexure-IV.pdf
588K
- ➔ Annexure-IIIa PhD Coursework Scheme.pdf
388K
- ➔ Annexure II List External Expert.pdf
264K
- ➔ Annexure-III.pdf
1647K

Dr. Manish Jindal <manishphd@rediffmail.com>

Wed, Jun 24, 2020 at 1:56 PM

To: yashwant.csit@ujammu.ac.in

Dear Sir,

The Minutes of BoS meeting held on 22.06.2020 are approved. Please go ahead.

Thanks

On Tue, 23 Jun 2020 15:12:31 +0530 Yashwant singh wrote

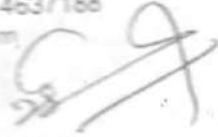
>Dear Sir/Madam

Greetings!! Please find enclosed the corrected Minutes of Meeting along with annexures for your kind information. Kindly revert to endorse the same. Also, external experts are requested to share your bank account details and PAN for payment of Honorarium. Thanks and Regards Dr. Yashwant Singh Associate Professor & HoD Department of Computer Science and Information Technology Central University of Jammu, J&K, India-181143 Mobile No. +919418203623 E-Mail: yash2222k1@gmail.com yashwant.csit@ujammu.ac.in

Manish Kumar Jindal
 Professor

Computer Science and Applications
Punjab University Regional Centre
Muktsar, Punjab

Mobile No. 98779351188, 09814637188
E-mail: harishchd@rediffmail.com





Yashwant singh <yashwant.csit@cuammu.ac.in>

Minutes of BoS Meeting held on 22-06-2020 through online mode

RAKESH KUMAR <rakeshkumar@kuk.ac.in>
To: Yashwant singh <yashwant.csit@cuammu.ac.in>

Fri, Jun 26, 2020 at 9:35 PM

Dear Sir,
Minutes have been perused and approved.
The details of Bank Account are as under:
Account No. 10139723279
IFSC : SBIN0001600
Bank Name: SBI
Branch: Kurukshetra University Kurukshetra
Copy of the cancelled check is attached herewith to verify the bank details.
Dr. Rakesh Kumar
Professor
Department of Computer Science and Applications
Kurukshetra University, Kurukshetra
Mob: 98963-36145

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Department of English
Central University of Jammu

Ref no. CUJ/Eng/2020/107

Date: 3/03/2020

Subject: Ph.D. Course work of the Department of English.

Syllabus

Attached is the Ph.D. Course work duly approved in the 6th Board of Studies (BoS) of the Department of English and Dean, School of Languages.

For notification pls.

AR(Academic)

[Handwritten signature]
3/2/2020
Dean

(Dr. Vandana Sharma)
Head
Department of English

[Handwritten signature]
3rd Mar. 2020

[Handwritten signature]
11/3/20
2020/3/20

Acad. 112
9-3-2020



Department of English
Central University of Jammu

Minutes of Board of Studies

The Board of Studies (BoS) meeting of the Department of English was held on Friday 7th February, 2020 at 1:00 Pm in the Committee Room, Central University of Jammu.

The following members were present:

- | | |
|--|-------------------------|
| 1. Dr. Vandana Sharma | Chairperson |
| 2. Prof. Roshan Lal Sharma | Member (Subject Expert) |
| 3. Prof. Vivek Sachdeva | Member (Subject Expert) |
| 4. Prof. Radha Chakravarty | Member (Subject Expert) |
| 5. Dr. Neena Gupta Vij | Member |
| 6. Dr. Vandana Sharma
<i>Dept. of HINDI</i> | Member |
| 7. Dr. M. A. A Farooq | Special Invitee |
| 8. Dr. Raj Thakur | Special Invitee |
| 9. Dr. Parveen Kumari | Special Invitee |

Signature
[Signature]
7th Feb. 2020

Roshan
07/02/20

[Signature]
7/2/20

R. Chakravarty
7-2-20

[Signature]
7.2.2020.

ON LEAVE

[Signature]

[Signature]

Parveen
07/02/2020

Minutes of 6th BoS of Department of English

Central University of Jammu

Venue: Committee Room, CUJ

Date: 7th February, 2020

Time: 12 Noon

Members Present:

Prof. Radha Chakravarty (Subject Expert, Ambedkar University, New Delhi)

Prof. Roshan Lal Sharma (Subject Expert, Dept. of English and European Languages, CUHP)

Prof. Vivek Sachdeva (Subject Expert, Dept. of English, GGSIP University, New Delhi)

Dr. Vandana Sharma (Associate Professor & Head, Department of English)

Dr. Vandana Sharma (Member, Department of Hindi)

Dr. Neena Gupta Vij (Member)

Dr. M.A.A. Farooq, Assistant Professor, Department of English (Special Invitee)

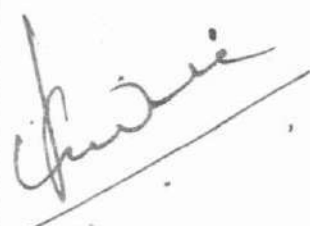
Dr. Raj Thakur, Assistant Professor, Department of English (Special Invitee)

Dr. Parveen Kumari Assistant Professor, Department of English (Special Invitee)

Agenda Item 6.1: Synopsis of Ms. Uheedah Shah

Approval for Synopsis of Ms. Uheedah Shah with reference to the observations of the previous BoS held on 22nd May, 2019. The Synopsis of Ms. Uheedah Shah (Registration No. 0120218, Batch 2018-19) was presented to the members of the Board of Studies. Certain suggestions and observations were to be incorporated as recommended by member experts. Therefore, the revised synopsis was to be mailed to the members after revision which could not be done on time. As a part-time scholar, she re-joined her duties after June, 2019. The revisions could not be completed before November, 2019 due to suspension of internet and


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other reasons. Therefore, the matter is put up for back date registration w.e.f. 24th December, 2019 after approval of Synopsis (Annexure -I).

Resolution 6.1: Approved with following suggestions and changes:

- (i) Approved title of the thesis to after changing it to : Politics of Adaptation : Representation of Women in Selected Films.
- (ii) Focussed on research methodology by incorporating Linda Hutcheon and other contemporary theorists.
- (iii) Revision of Synopsis after incorporation of the suggestions by 17th February, 2020.

In case the scholar submits the revised synopsis by 17th February 2020, her date of registration be approved w.e.f. 24th December, 2019.

Agenda Item 6.2: Approval for Ph.D. Course work comprising 16 Credits and 2 credit course on Research and Publication Ethics (Annexure II)

Resolution 6.2: Approved

Paper I (Contemporary Literary Thought and Critical Approaches) is approved with following suggestions and changes:

- (i) Title of the paper to be changed to **Contemporary Literary Theory**
- (ii) List of suggested reading to be exhaustive. *Norton Anthology* and reference books of M.A.R.Habib are to be incorporated in the list.
- (iii) 8 units to be compressed into 5 units and each unit should comprise three essays
- (iv) **World Literature** to be incorporated
- (v) **Gender, Caste and Intersectionality** to be incorporated

Paper II (Research Methodology) is approved as it is.

It was suggested that Research Methodology be considered as the **first paper** in the Ph.D. course.

Paper III (Term Paper/Specified Research Area) is approved with following suggestions and changes:

Lawson
Apuley

[Signature]

- (i) Title of the paper to be changed to **Specified Research Area**

Paper IV (Seminar) is approved with following suggestion:

- (i) The paper be titled as **Synopsis Writing**

~~in Botany, Zoology, Physics and Chemistry to be offered to Integrated Courses~~
in Botany, Zoology, Physics and Chemistry (Annexure III)

Resolution 6.3: Approved as it is.

Agenda Item 6.4: Approval for contents of B.A. : B.Ed. Integrated Courses to be offered by Department of English. (Annexure IV)

Resolution 6.4: Approved

The following suggestions for Ability Enhancement Course II & III were made:

Ability Enhancement Course II: In Unit V, the novel suggested is *A Flight of Pigeons* by Ruskin Bond

Ability Enhancement Course III: The novel suggested is *The Old Man and the Sea* by Ernest Hemingway

Agenda Item 6.5: Approval for Mr. Jamphel Sheyan's upgradation from JRF to SRF.(Annexure V)

Resolution 6.5. Approved

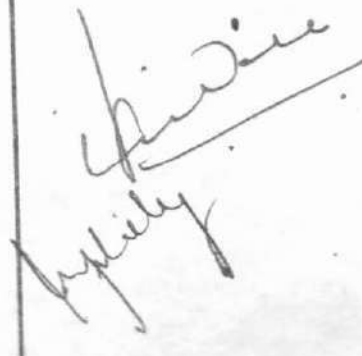
Agenda Item 6.6: Approval for Ph.D. Re-registration of Ms. Nirmal Kumari

Ms. Nirmal Kumari (CUJ/Eng/Registration No. 0410213, Batch 2013) was due to submit her Thesis by 31st Oct, 2018. She was unable to submit due to personal reasons and applied for re-registration in August, the 2019. Since, the scholar was not available during the period from October 2018 to August 2019, she submitted her re- registration form for back dated approval w.e.f. Oct, 2018 as one time exemption , her Re-registration is therefore put up for approval of the Board of Studies w.e.f. 30th October,2018 .She is required to submit her thesis by October,2020. (Annexure VI)

Resolution 6.6: Approved as one time approval.

Agenda Item 6.7: Minor Revision of Course Curriculum of M.A. English (Paper: Indian Writing in English, Semester II)

Lawren



Approved

Final Solutions by Mahesh Dattani is approved in place of *Dance Like a Man*.

Signature/s

Prof. Radha Chakravarty (Subject Expert)

Prof. Roshan Lal Sharma (Subject Expert)

Prof. Vivek Sachdeva (Subject Expert)

Dr. Vandana Sharma (HoD, English, CUJ)

Dr. Neena Gupta Vij (Member)

Dr. Vandana Sharma (Member, Dept. of Hindi)

Dr. M.A.A. Farooq (Special Invitee)

Dr. Raj Thakur (Special invitee)

Dr. Parveen Kumari (Special invitee)

Approval annexed at VIII

[Signature]
3rd Mar! 2020
[Signature]

On Leave

[Signature]

Parveen
03/03/2020

ANN

The Politics of Adaptation: Representation of Women in Selected Films

A Synopsis for Ph. D (part-time) in English

submitted to

Central University of Jammu

By

Uheedah Shah

Under the supervision of

Dr. Neena Gupta Vij

Department Of English

Central University of Jammu

Jammu & Kashmir

2018-2019

Supervisor:

Uheedah Shah

Dr. Neena Gupta Vij

3.5.2020

ANNEXURE - 6.1

Introduction

The proposed thesis is an attempt to study selected texts and their cinematic adaptations in order to search for certain paradigms that dominate literary works and cinema that underlie Indian society and affect the representation of the man-woman relationship in word as well as image. Image has been becoming more legitimate than language in the present day world of technology and media boom and one of the most likely sources for discourse studies now emerging is a study of how written texts have been translated or adapted into images of the film. From novel to screenplay, and then to an image text -- this textual migration is one of the primary reasons for selecting this topic and trying to decipher the patriarchal conventions and representation of women in both text and screen. According to Massimo Fusillo:

Two crucial theoretical presuppositions configure visual studies as an open and complex field of research, made of a continuous interdisciplinary dialogue: first, the cultural nature of the image, a principle that subverts a long-lasting Western cultural paradigm, that identifies image with nature and femininity; second, the constant interaction between word and image that involves memory, perception and every part of our emotional life. (4)

The thesis seeks to explore the idea that the adaptation of women-centric texts is affected by the "politics of adaptation" that is an affect of the fundamentally patriarchal perspective that dominates Indian cinema. The research aims to study the relationship between patriarchal representations in narrative and the subsequent emergence of a cinematic convention that may retain, resist or subvert these representations.

The study is based on the assumption that the representation of women is predicated on the hegemonic discourse of Patriarchy, which implies that the whole world belongs to men. This ideology is entrenched in the concept of family, tradition and religion. Patriarchy exists in all cultures and according to most theorists, is "derived from cultural factors." These factors are explained as being questions of a) nature and b) psyche.

- a) Nature: Women are identified with nature, [an involuntary process] and men with culture [a process of thinking and development]". Women are associated with natural processes such as childbirth and care giving. In terms of nature versus culture, women's domestic sphere work in raising a family is seen as not being real work compared to man's work which yields monetary results and is in the dominant public sphere.
- b) Psyche: Basically it is women being depicted as being non-male. A further look into psychoanalysis shows that women are seen as being emotional, domestic and irrational whereas men are seen as educated, worldly and rational. Rationality is seen as an expression of male dominance. Women are seen as creating disorder as a result of having an emotional disposition and therefore inferior.

Being so deeply entrenched in Indian culture Patriarchy is manipulated in films so as to legitimately portray women as being weak, domesticated and subservient. Patriarchy extends from the household into film when representing women in everyday activities. Sometimes, women characters do not appear at all or are represented in certain typical ways.

The normative, presumably the "male gaze" of the writer, director or viewer draws upon a stereotypical and essentialist notion of femininity. The historically and socio-culturally contingent expression of femininity, masculinity or gender diversity more broadly, is commonly conceptualized as a fundamental component of individual identity that is both separable from and interactive with sex (bodily features connected to femaleness, maleness and sex diversity). In Simon de Beauvoir's famous statement, "a woman is not born: she becomes, is made a woman." This is to say that socialization of woman renders her a woman with certain apparently "inherent" qualities—weakness, feeble-mindedness, patience and so on. All this helps society at large to argue that women need to be protected and controlled. Their sexuality and desires are made and treated as subservient to that of males. The Butlerian concept of gender as a construct has, however, recently begun to challenge the assumptions of sexist perceptions and norms. Film adaptations of androtexts, such as *Umrao Jan*, primarily by male directors and gnotexts, like *The Ice Candy Man*, directed by women, when subjected to feminist critical analysis, yield nuanced instances of patriarchal discursivity in the case of the former, or set up a counter discourse, as in the case of the latter.

Ideology, Representation and Stereotyping

Ideology, representation and stereotyping are three of the most important theoretical aspects of film and it is imperative to look at them when doing an analysis, seeing that it is ideology that structures the modes of representation and stereotyping. As long as people continue to buy into

stereotyping in film, the representations become the norm and thus patriarchal hegemony occurs. As the cycle continues, the ideas are disseminated through various forms such as cinema. Linked to cinema and ideology is representation and linked to representation is stereotyping.

Ideology: Ideology is a term that is used to describe a worldview that is held and followed by people. People can have different ideologies. Cinema, through reading and experience, has been influenced by a patriarchal ideology. The Marxian edict, "The ideas of the ruling class are in every epoch the ruling ideas, since those who controlled economic production and distribution could also regulate the production and distribution of ideas" (qtd. in McLellan 12) holds good in the case of Bollywood, where the 'ruling class' are mostly the men who own the industry.

Representation and Stereotyping

The images and the sounds in film have a large impact on how we see the world and the representations used are inadvertently a comment on society. In society, issues of gender are represented in cinema all the time. More often than not, the images used are ones that perpetuate the patriarchal system in which we live, as well as dictate the way we see gender roles. Branston & Stafford speak of representation as "how the media re-present events, and how the media represent people and groups" (125). In terms of cinema this is true. Representation is, on a deeper level "the social classification of particular groups and people as often highly simplified and generalized signs, which implicitly or explicitly represent a set of values, judgements and assumptions concerning their behaviour, characteristics or history" (Fourie 471).

Intrinsically linked to representation in cinema comes stereotyping. Stereotyping is the labeling of something or someone as a general, two dimensional figure that shows limited and specifically selected aspects of what or whoever is being represented. Reducing women to her bodily attributes alone is a stereotype that gains attention and maintains control.

Literature Review

The thesis aims to study the relationship between patriarchal representations in narrative, as arising out of heteronormativity and the subsequent emergence of a cinematic convention that may retain, resist or subvert these representations.

The relation between literature and film has, over the last few decades, become the object of increased attention among practitioners of both the art forms. A survey of the history of the novel after

1922—the year Joyce's *Ulysses* appeared shows that it is to a large extent that development of a cinematic imagination in novelists is growing.

In *Reading the Movies*, William Costanzo notes that it has been estimated that a third of all films ever made were adapted from novels. Film adaptation is a complicated process of transfer and transformation of a written narrative into a visual media for an audience. The celluloid has become a major conveyor of the narrative of literature (54). John Harrington in *Film and/as Literature* explains, "while other art forms have taken centuries to flourish, the span of single lifetime has witnessed the birth and maturity of film" (ix).

The main attraction for this novel into film adaptation process that attracts one to this kind of research is the audiences—(reader and viewer) and the representation of the original in the text onto the screen. Constantly creating their own mental images of the world of a novel and its people, they are interested in comparing their images with those created by the film maker.

Whatever it is that makes film-goers want to see adaptation of novels, and film-makers to produce them, and whatever hazards lie in the path for both, novel into film adaptation emerges as a reality. In this regard, one is reminded of Anthony Burgess's view that "Every best-selling novel has to be turned into a film, the assumption being that the book itself whets an appetite for the true fulfillment--the verbal shadow turned into light, the word made flesh."

Nikita Ramkissoon in her research titled "Representation of women in Bollywood cinema: Characterisation, Songs, Dance and Dress in Yash Raj Films from 1997 to 2007, Faculty of Humanities, Development and Social Sciences, University of KwaZulu-Natal, Howard College Campus, 2009 is focusing on the visual representation of women in Bollywood cinema, focusing on Yash Raj films from 1997 to 2007 to analyse the chosen films in terms of female characterization (the roles of daughter, wife, daughter-in-law, mother, vamp, courtesan and widow), song and dance routines, which are an integral part of what makes Bollywood so unique and so culture-specific. The researcher assumes that the reader has had contact with Bollywood films and therefore does not delve deeper into filmic practice. The study is aimed at focusing at questions like--how does Bollywood cinema represent women, are women in Bollywood cinema constructed mainly for the male gaze, and to what extent have women overcome negative representation in film?

Another researcher, Dalvi Mahananda Chandrakant, from School of Languages and Literature, Swami Ramanand Teerth Marathwada University in his research titled "The Delineation of Women



Characters in Film and Fiction—A Comparative Study” (2015) attempts to compare the four works of art by four different novelists and film directors. The dissertation has tried to study the women delineation in a text (novel) and their film adaptation from a comparative angle. These four novels focus on the study of women characters in the light of patriarchy and feminism. In the research, the novels--*Wuthering Heights* by Emile Bronte, *Heat and Dust* by R.P Jhabvala, *Ice- Candy Man* by Bapsi Sidhwa and *The Color Purple* by Alice Walker and their film adaptations are studied from a feminist point of view. It attempts to focus on the comparison between the delineation of women characters in film and fiction to interpret intellectually the similarities and dissimilarities between film and fiction.

Dr. Atiya Noor, a scholar from Jammu University (2015) in her thesis, “*Adaptation Poetics : A Study of Select Victorian Fiction in Films*” posits a view that literary texts are successfully adapted to film and has studied the adaptation of the select novels from the Victorian period, like Charles Dickens’ *Oliver Twist* (1838) *Nicholas Nickleby* (1839) and *Great Expectations* (1861) ; Charlotte Bronte’s *Jane Eyre* (1847); Emily Bronte’s *Wuthering Heights* (1847); Anne Bronte’s *The Tenant of Wildfell Hall* (1848) and Thomas Hardy’s *Far from the Madding Crowd* (1874), *Tess of the D’Urbevilles* (1892) and *Jude the Obscure* (1895). These novels have been selected on the basis of their popularity as film adaptations, especially keeping the filmmakers reputation and the film’s success in mind.

Ms. Vaishali Gahlot, from St. Stephen’s College has worked on “Adapting texts to film-- A study of *Godaan* and *Umrao Jaan Ada*”. The analysis in her study tries to shed light on the inter-relationship between the films and novels especially in the context of chronotype or time / space relationship as well as the thematic, cultural and technological concerns.

Parvinder Mehta, in her “Repressive Silences and Whispers of History: Lessons and Leagues of 1984” focuses on the frames of shadows, absences and forgotten history; discursive formations of victims and suffering in Shonali Bose’s *Amu*. *Amu*’s sense of intrigue and curiosity become a driving force in leading her toward her secret past – her quest of identity.

Manmeet Kaur and Divya Rastogi Kapoor in their research article on “A Study on Screen Adaptations from Literature with reference to Chetan Bhagats’ Novels” have applied content analysis to their research and have analysed that the novel is a detailed and stretched form of description which becomes a major challenge of a filmmaker in adaptations. They have found that there were not many

differences between the novel and the movie but the second part of the film has been quite hurried through.

Patrick Colm Hogan in his book '*Understanding Indian Movies*' in chapter five "Seeing Indian Style -- The Brain and its Visual Culture" talks about *Umrao Jaan* and *Fire*. The chapter talks about a great deal of cognitive research on vision, focusing mainly on two categories. The first concerns figures and the second concerns light, both color and brightness. This research talks about the figural vision, particularly as it bears on expectations and emotion. The second section treats continuity editing in Muzaffar Ali's *Umrao Jaan* focusing on perception and light. For example, Umrao with tear filled eyes and tracks of a tear from each eye to the sides of her chin... then another cut like... Umrao with dry eyes and a dry face, though the scene is apparently continuous. This creates a sense of anomaly, a sense of contradiction.

After going through these researches and other relevant material, one comes to see that a lot of work has been done by many researchers into the area of novel and film adaptation and there is still a scope to do a lot more research. Researchers have talked about female characterization and roles, the delineation of women characters in the light of patriarchy and feminism, similarities and dissimilarities between films and novels especially in the context of chronotype or time/space relationship, identity issues and much more. In order to explore more about novel into film adaptation focusing more on the representations of women, male gaze and patriarchal conventions, actually what happens to the representation of women when art forms change interests me as a research area for which a study can be undertaken which could contribute to the ocean of knowledge.

The present research aims to study the relationship between patriarchal representations in narrative and the subsequent emergence of a cinematic convention that may retain, resist or subvert these representations. The research would be purely a feminist based research. In the Introduction to *Films & Feminism – Essays in India Cinema* edited by Jasbir Jain and Sudha Rai, the editors posit that films appear to be related to literature. "Film criticism has a value for literary studies for it allows us to view them differently, to look for the unconscious reflection of social reality, the underlying power structures, the frames which melt into each other, the repetitive narrative patterns, the dialogues which use myth and history, the juxtapositions which take place and the simultaneity which the medium allows." The cinema undoubtedly involves literature and never shows any hesitations in appropriating literature for its purposes. Thus, literature departments cannot be all together aloof from the cinematic intervention.



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Justification

The growing popularity of novels amongst the filmmakers compel one to believe that the novels truly inspire a filmmaker but the question that remains is what actually happens to the novels when adapted into films? The thesis attempts to address this issue with reference to the selected texts and films. As the review suggests, a fruitful and new perspective emerges from a study of adaptations of literary narratives into the medium of film.

“Cinema is a system of production of meaning, above and beyond a mechanical process of image generation, and one that has a unique ability to play with the suppression of knowledge in favour of belief” (Mulvey 12). Also indicated is the way in which society engages the role of women---women are not seen as equal in society and thus are not likely to be seen as equal in film, which is a depiction of society. Using this as a basis, the analysis to follow will have these ideas expanded into full length discussions on each of the ideas above in the texts in relation to the films examined.

Contextual analysis of feminist adaptations provides various views on women’s subjectivity: female language, female identity, female body, female sexuality, female psychological positioning--all these can be investigated from the perspectives of the characters and adapters. The aim of this research study is to look at the representations of women in the novel and then its filmic adaptations, revolving around the deep rooted ideology of Patriarchy-- patriarchy in its various forms – visible or subtle. The objectified woman in cinema who may have been seen as a subject in text, reveals herself as an object, despite being the protagonist, when we try to delve deeper and read between lines.

Though a lot of work has been done on adaptations of literary narratives, the texts undertaken have not been studied from a comparative perspective i.e, representation or mis-representation from novel to film.

Study Area

The proposed research work shall focus on three novels-- *Umrao Jaan Ada*, *Ice-Candy Man* and *2- States* and their film adaptations from a feminist perspective. It would be a study to explore and examine how the texts maybe re-interpreted when transformed into films and vice-versa.

The novel “*Umrao Jaan Ada*” is actually the first Urdu novel proper, written by Mirza Muhammad Hadi Ruswa (first published in 1889) and translated by Khushwant Singh and M.A Husaini (Delhi 1961) adapted into film by the same name (1981) for the first time starring Rekha (as Umrao) directed by Muzafar Ali. Later again adapted in 2006 directed by J.P.Dutta starring Aishwarya

Kai--an epitome of beauty as Umrao. *Umrao Jaan* is one of the many Indian films that treat courtesans and their patrons. It also explores aspects of Muslim aristocratic culture in the nineteenth century. The novel's emotional impact and its thematic development lean very heavily on its distinctive visual style. This style includes great visual beauty, through its attention to colour, set design, costuming, and so forth. The issues of morality, the question of female existence, portrayal of beauty, scholarly abilities, self, freedom, territorial limits of feminine identity in a purely patriarchal society - all relate to it from the beginning to end.

Another selected novel sounds really more interesting and challenging to me as it is written by a female author Bapsi Sidhwa titled "Ice-Candy Man" and its film adaptation by the name 'Earth-1947' directed by a female, Deepa Mehta in 1999 . Sidwa's novel *Ice-Candy Man* was first published in 1988 in London, is the second novel on partition by a woman author, the first being Attia Hosain's *Sunlight on a Broken Column*. Bapsi Sidhwa's novel *Ice - Candy Man* is a realistic novel set in Lahore which revolves round the varied themes of communal tensions, political oppression, power and love and most importantly the story of a Hindu ayah Shanta. The novel skillfully recreates the ethos of partition through the innocent eyes of Lenny, the child narrator of the novel. Shanta, the Ayah has a seductive appearance who attracts many admirers, Hindu, Muslim and Sikh living together in harmony initially become thirsty of each other's blood towards the end of the novel. The ice-candy man, one of the admirers of Shanta ,is the titular hero of the novel who turns out to be an anti-hero in the end. The plight of Ayah in this communal hatred, after effects of war especially on women—all would be looked into through a gender lens.

Finally, Chetan Bhagat's best-seller novel "2-states" (2009) which has been adapted into a film by the same name "2-states" (released 2014) produced by Karan Johar, Sajid Nadiadwala and Siddharth Roy Kapur. It is a love story of the two persons from two different states and cultures -the tough battle of families, cultures, patriarchal undertones, feminine submissive attitudes - which ultimately ends up in a mutual compromise of fake identities and false egos. The story of Ananya and Krish, who are deeply in love but hail from two states on India and how they struggle for their marriage. In their story, the story of their parents, role of patriarchy, stereotypes and ideologies that come to play a dominant role. The interesting and refreshing revelation is that the women characters are more nuanced and patriarchy is subverted, challenged and resisted. s

Objectives

The research would mainly focus on the adaptations of novels to identify how they interpret, communicate and manipulate the representations of women, and to study the ideological assumptions underlying the text.

The study shall address the question of how the film adaptations interpret the texts, and what actually happens to the representations of women when it gets transformed from one medium to another. Also, what is lost and what is gained in the passage from page to screen.

It would further look into the changes transformation brings to the original text. The research would mainly focus on the adaptations of novels to identify how the director interprets, communicates and manipulates the representations of women, how the director visualizes the culture and representations in novel, how the patriarchy plays a role in this visualisation.

The research would be the most objective and systematic appraisal of what has happened in the process of transportation from one form of art to the other. The writer's portrayal of the protagonists in the perspective of feminism and director's cinematic punches would be looked into.

Research Question

The research aims at studying adaptation as interpretation; at analyzing the "patriarchal conventions" in both art forms; whether the element of feminism: "representation of women" which is dominant/suppressive in the novels is sustained in both the forms -- the novel and its film adaptation in its pure essence and description? It would also research and try to understand the kinds of transmutations that have taken place, and also to distinguish what the film - maker has sought to retain from the original and kinds of use to which he/she has put it. There is also the question of Inter-media representation-- whether the kind of **central questions/issues** raised in the novels are portrayed in the same way in the other medium or whether the commercial constraints/change of art form lead to excess glorification or melodrama which mars the real beauty affecting the actual plot and characters.

Methodology

This study is an attempt to study adaptations of novels into films as interpretation and recreation. Adaptation studies became established in academic debate and discourse in the 50s and 60s. It can be said to have been inaugurated by George Bluestone, often referred to as the grandfather of adaptation studies. He wrote the first book that made a concerted effort to examine the 'filmed novel' using a comparative methodology. Adaptations from literature to film or television as an inter-media

art form had created a debate for and against the concept of 'Fidelity'. This is the idea that the text has one single correct meaning to which the director should adhere and must faithfully reproduce. In adaptations, it is faithfulness and innovation in varying degrees; how closely the film follows the original text in part determines whether it is thought to be a faithful adaptation, a free adaptation or somewhere in between. He led the way for the anti-fidelity movement by writing about the limits of each medium. One of the major studies from the United States to evaluate the inter-relative processes between literature and film, specifically, the novel and the film was his *Novels into Film* (1957) wherein he begins his exploration of adapting novels into films by stating the following aims:

This study attempts to gauge some of the characteristics in reference one of the traditional arts; more specifically, to make this assessment by careful attention to a particular genre – the filmed novel-- where both media overlap [...] to demonstrate, that the two media are marked by essentially different traits (pviii).

R Gordon, in his study of adaptations of novels/drama into musicals, clarifies that, "Then as now adaptation studies often focuses more or less exclusively on page-to-screen adaptations or – in the area of music(al) theatre studies – on page-to-stage or stage-to-screen transfers (7). The transformation of text from word to image is an art form that has created its own theoretical framework. Linda Hutcheon, in *The Theory of Adaptation*, posits that, "as a process of creation the act of adaptation always involves both (re-)interpretation and then (re-) creation" (8). In *Adaptation and Appropriation*, Julie Sanders offers that, "Adaptation and appropriation are fundamental to the practice...of literature" (1). Speaking of originality of a text, re-writing and intertextuality, she adds that "Many of the film, television or theatre adaptations of canonical works of literature openly declare themselves as interpretation or re-reading of a canonical precursor" (2). R. Gordon unequivocally states, "Adaptation is always an act of interpretation" (5).

These interpretations or recreations carry their own issues that are emphasized by theorists. In considering transpositions from novel into film, Imelda Whelehan warns of the complicated web of cultural and industrial factors that are invoked:

[A]ny critical consideration of an adaptation's reception might benefit from recognising some of the practical realities involved in producing a commercially successful film – such as pruning culturally anachronistic features, trimming sophisticated narrative strategies into a

recognizable popular film genre which is, in turn, an adaptation of older films, with intertextual links with its contemporary counterparts. (4)

These, and culturally and ethnically interpellated, patriarchal assumptions may underlie the transference of the female literary figure into images that re-enforce, or counter the normative. The thesis attempts to understand some aspects of this “politics of adaptation” of text-to-image.

The study also attempts to understand the question of representation of women in both novel form and its adaptation by applying critical analysis to both the art forms using both Adaptation and Feminist theories. Film is a medium that contains images which are fraught with meaning and seems necessary to validate or refute the transference by exploring texts through examining their textual codes and social/historical contexts, in a process of textual analysis. Some feminist theories, adaptations theories and feminist film theories that would frame the backbone of the research as my interest in this research lies in the female characters, representations of women and how gender and sexuality is constructed in the novel and the film, including the deeply embedded roots of patriarchy that form a sub-text in both art forms. The research seeks to uncover the ideology of patriarchal society, representations of women and the socio-political oppression that becomes the agency of this oppression at the same time, justifying it as natural. The research would be conducted by a close feminist reading of the selected novels thoroughly from feminist literary point of view and analyzing the adapted versions into films by watching screens, frames, dialogues, plots etc., in detail to identify the shift from one medium to the other.

The twentieth century inaugurated the women as an equal and opposite force to men in culture and society. Virginia Woolf in her books *A Room of one's Own* (1929) and *Three Guineas* (1938) has analyzed the gender biases and oppressive structures in pedagogic practices to meditate upon the woman's question. Betty Friedan's, *The Feminist Mystique* and Kate Millet's *Sexual Politics* are seminal texts that have brought out the objectification of women in literature. Juliet Mitchell, in *Woman's Estate* argues that women's oppression is linked to four essential social structures – work, reproduction, sexuality and socialization. Mitchell sought to combine a critique of socialist thought and psycho-analysis for feminist theory in what was one of the earliest attempts to make feminism inter-disciplinary, and overtly political.

The representation of women as the “second sex,” in a man-made society was one of the path-breaking researches that had a significant influence on both feminist existentialism and feminist



theory. In her book *"The Second Sex"* (1949), Simone de Beauvoir seeks to understand the relegation of the woman into a 'second sex'. She argues that the terms 'man' and 'woman' are not value free. De Beauvoir argues that the concept of 'othering' is crucial to the construction of human identity. Woman thus becomes mythicised, the subject of male dreams, and idealizations. She argues that such a representation enables the man to bestow woman with his fears as well as his desires, his loves and hatreds. Millet's *"Sexual Politics"* (1969) situated at the cross-roads of literary and cultural criticism and political theory, launched a major criticism of canonical male authors like Lawrence, Norman Mailer & Henry Miller. Her theory unveils the basic premises of patriarchy and the impact on representation of women thereby focusing on the man-woman relationships. Millet demonstrated that sexual relationships controlled by the males reinforced gender oppression. Violence and coercion are often used to sustain these images / stereotypes and representations. Judith Butler, making gender performative, helps in understanding ways of deconstructing feminism as an essential category.

Adaptation theorists such as Linda Hutcheon, Julie Sanders and Robert Stam would be studied in order to understand the intricacies and compulsions of adaptations that lead them either to some necessary deletions or compulsive changes. It could aim to delve deeper into the novel-film adaptation to locate what happens to this representation and how it is over or under played through the medium of film. Feminist film critics such as Laura Mulvey and Urvashi Butalia have added to the argument of female image presented to the viewer. Laura Mulvey started writing on feminist film theory in the 70's and since developing ideas about 'spectorial identification' and the male gaze. The most influential literature on feminism and film theory with regard to contemporary thinking is Laura Mulvey's *"Visual pleasure and Narrative Cinema"*. This essay examines psychoanalytic Althusserian and Feminist theories. This essay is of great importance because "film reflects, reveals and even plays on the straight, socially established interpretation of sexual difference which controls images, erotic ways of looking and spectacle" (Mulvey 57). According to Mulvey the female character serves as a spectacle to provide pleasure to the male spectator, for which Mulvey had used the term 'Gaze'. The theory of 'Absences and Presences' was concerned with the absence of a certain type of female characters in films and the presence of the other type, which was seen to be influenced by patriarchal values. Thus feminist theory in its critique of films incorporated the valorization of women's experiences thereby posing a challenge to gender hierarchy as well as opening up new realms for a post-gendered future.

Urvashi Butalia's 1984 article "Women in Indian Cinema" still has relevance today as it is a general discussion of women and how they are embodied in Indian cinema. She discusses topics such as culture, religion and traditions which should be examined when thinking and theorizing about Bollywood. She affirms that although women are becoming increasingly visible in cinema, we have to question what kind of visibility it is and who the image of the visible woman is serving. They are seen as either good or bad and not in between and they seldom question that role or the men who control the representation of that role.

A wide range of secondary sources - library, information sources such as research journals, articles, internet sources and critic reviews, box-office reviews, newspaper articles, web-sources etc would be consulted and reviewed thoroughly and analytically.

Tentative Chapters

The thesis would comprise of an introduction followed by four elaborate chapters and conclusion at the end.

Introduction

The introduction of this dissertation would deal with the dual central aims--the politics of adaptation, conventions of patriarchy, feminist representations and mis- representations, the feminist issues viz-a-viz novel and its film adaption. This will include the working of a novel into film, stereotyped constructs and images, the popular idea of romance and sexual aggression, the male gaze women's search for self and identity.

Chapter I titled "Umrao Jaan Ada –The Journey from Private/Page to Public/ Screen" will explore the story of Umrao Jaan. The story has enthralled the filmmakers with its engrossing cinematic representation that is so vivid in Muzaffar Ali's directed version, wherein the protagonist Rekha (representing the character of Umrao Jaan Ada) has mesmerized all with her fluid moves and beautiful use of her eyes. The sadness of the protagonist is vividly visible and explored in the novel Umrao Jaan wherein a reader can easily feel the Umrao's disappointments that are intense. The patriarchal undertones both in text and on screen vividly visible will be looked into. These and many more themes in both art forms will be looked into thoroughly.

Chapter II titled "Ice-Candy Man" – Through the Female Gaze/Lens" and its film adaptation by the name *Earth-1947* seems more interesting to be researched as it is written by a female

...nor Bapsi Sidhwa and even produced and directed by a female Deepa Mehta in 1999. *Ice - Candy Man* is a realistic novel set in Lahore which revolves round the varied themes of communal tensions, political oppression, power and love and most importantly the story of a Hindu ayah Shanta and her plight and of all other women who become the victims of communal hatred towards the end of the novel.

Chapter III titled “**2-States—The Question of Masculine-Feminine Gender Identity**” will be researching into Chetan Bhagat’s best-seller novel *2-states* (2009) which has been adapted into a film by the same name *2-States* (released 2014) produced by karan Johar, Sajid Nadiadwala and Siddharth Roy Kapoor. It is a love story of two persons from two different states and cultures. The chapter would deal with the representation of women -- the tough battle of families, cultures, patriarchal undertones, feminine submissive attitudes etc.

Chapter IV titled “**A Comparative Analysis of Umrao Jaan Ada, Ice-Candy Man and 2-States**” - aims to deal with a comparative analysis of the two art forms vis-a-vis the feminist theory - the three novels, their film adaptation and the female representation. It deals with examining feminist interpretations of the novel at one point of time and its representations in the film at another to understand what happens to feminist representation when it is transformed.

It would focus on comparing all the three novels and their film adaptations vis-a-vis feminist theory. It is also going to throw more light on the nature and status of feminist structure/ concerns with the text and film to see the intensity, focus, variations, in depth in both forms. It would also analyze the reader/ viewer impact, the commercial pressures, the socio-cultural pressures on both art forms.

Conclusion

The conclusion shall project the research findings - highlighting the kinds of transmutations that have taken place, to distinguish what the film-maker has sought to retain from the original and the kinds of use to which he/she has put it. Actually focusing on the female representations in novels and how it gets reflected in the movies - differently or complacently. Further, feminist issues that beset the novels will also be assessed, analyzed and examined as the novels travel from text to screen.

It would also project the suggestions for future research into this area besides focusing on its social and academic relevance.

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ANN

Detailed Syllabus of English for Integrated BA-B.Ed.

(Department of Educational Studies)

APPROVED

Semester I

Title of Course: Ability Enhancement Course I

Course Code:

Objectives of the Course: To enhance reading, comprehension and writing skills in English and introduce the students to selected literary works.

UNIT I: Grammar

1. The Verb: Tenses and concord
2. Combination of sentences
3. Comprehension Passage: questions, vocabulary and précis.
4. Composition: Paragraph: Components and Types
5. Paragraph Writing

UNIT II: Poetry

1. Rabindranath Tagore "Where the Mind is Without Fear"
2. Wilfred Owen "Strange Meeting"

UNIT III: Essays

1. J.C. Hill. "Good Manners"
2. Vandana Shiva. "The Social Costs of Economic Globalisation"

Raiween

19
Amulya
Chandra
5.3.2020

1. Ruskin Bond: *A Flight of Pigeons*.

Mode of Examination

There shall be three sections A, B & C

Four credit course shall be of three hour duration and shall comprise the following:

Section A: will consist of 10 multiple choice questions, two from each unit. Each question shall be of 1.5 marks (total 15 marks).

Section B: will consist of 10 short answer questions, two from each unit. Each question shall be of 8 marks. The candidate is required to conduct any 5 questions, selecting at least 1 from each unit.(total 40 marks) Word Limit-(150-200)

Section C: will consist of 5 long answer questions, one from each unit. Each question shall be of 15 marks. The candidate is required to attempt any three questions (total 45 marks)

Word Limit-(300-350)



Detailed Syllabus of English for Integrated BA-B.Ed. (Department of Educational Studies)

APPROVED

Semester III

Title of Course: Ability Enhancement III

Course Code:

Objectives of the Course: To enhance the understanding of communication as a system and create an understanding of literature as a specialised form of communication.

UNIT I

2. Communication: Definition, Types, Barriers
3. Effective Listening/Speaking/Reading

UNIT II

1. Technical Communication: Report Writing, Formal Letters, Memos, Presentations.

UNIT III: Poetry

1. Alfred Noyes "The Highwayman"
2. Pablo Neruda: The Dictators

UNIT IV: Short Fiction

1. E.A. Poe, "The Tell Tale Heart" (From Short Stories)
2. H.H. Munro (Saki). "The Open Window"

Unit V: Fiction

1. Ernest Hemingway. *The Old Man and the Sea*

Mode of Examination

There shall be three sections A, B & C

Lawren

(Signature)

(Signature)

(Signature)
3.3.2020

Four credit course shall be of three hour duration and shall comprise the following:

Section A: will consist of 10 multiple choice questions, two from each unit. Each question shall be of 1.5 marks (total 15 marks).

Section B: will consist of 10 short answer questions, two from each unit. Each question shall be of 8 marks. The candidate is required to conduct any 5 questions, selecting at least 1 from each unit.(total 40 marks) Word Limit-(150-200)

Section C: will consist of 5 long answer questions, one from each unit. Each question shall be of 15 marks. The candidate is required to attempt any three questions (total 45 marks)

Word Limit-(300-350)



ANNEXURE

Annexure 6.6

Annexure 6.6: Mr. Jampal Shrestha's promotion from JRF and SRF has been approved on 21.11.2017.

Approval for Ph.D. Re-registration of Ms. Nirmal Kumari

Resolution 6.6: Approved as one time approval.

The scholar is required to submit her thesis by October, 2020.

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3.3.2020
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ANNEXURE


Annexure 6: 5.

Mr. Jamphel Sheyan's promotion from JRF and SRF has been approved w.e.f. 12th November, 2017.

Approval for Ph.D. Registration of Ms. Nimmi Kumar
Resolution & Approved as one time approval.
The scholar is required to submit her thesis by October 2020.

Lawren






3.3.2020

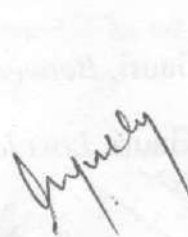
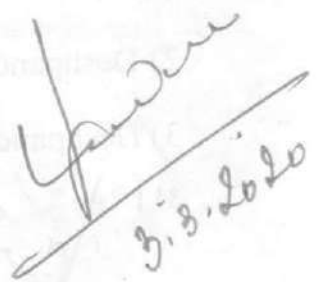
ANNEXURE – 6:7**Detailed Syllabus of MA in English****Semester II****APPROVED****Type of Course: Core****Course Code : PGECL2C009T****Title of Course: Indian Writing in English****Objective**

The objective of the course is to introduce students to the major movements and writers of Indian literature in English through the study of selected literary texts. The aim is to study the development of Indian Writing in English in all the genres and generate a sense of appreciation for the Indian literary text. This course also aims to study the artistic and innovative use of language employed by the writers and provide the students a perception into the diverse aspects of Indian writings in English. The students will be introduced to the key concepts & terms of IWE: *Twice born Fiction*, *Indian Sensibility*, *Chutnefication of language*, *Writing back*, *Decolonisation*, *Partition literature*, *Indian Myths and literature*, *Hinglish*, *Imitative*, *Creative*, *Elitist/Parochial*.

Unit I: Essays

i) Macaulay: "Minute on Indian Education"



ii) R. K Narayan: "Toasted English"

iii) Raja Rao: Foreword to *Kanthapura*

(iv) Salman Rushdie: "Commonwealth Literature Does Not Exist"

Unit II: Poetry

1. Nissim Ezekiel:

"Poet, Lover, Birdwatcher"

2. Dom Moraes

"Future plans"

3. Eunice De Souza

"Forgive Me, My Mother"

4. Gauri Deshpande

"The Female of the Species"

Unit III: Fiction

R. K Narayan : *Waiting for the Mahatma*

Unit IV: Fiction

Arvind Adiga: *The White Tiger*

Unit V: Drama

Mahesh Dattani: *Final Solution*

Recommended Reading

1) Souza, Eunice de. *Nine Indian Women Poets: An Anthology*, New Delhi. Oxford. Ed 1997.

2) Deshpande Gauri, *Between Births*, Calcutta Writers Workshop:1968.

3) Deshpande, Gauri. *Lost love*, Calcutta writers workshop.1970.

- 4) L.H. Amiga. *Indo- English Poetry*. Jaipur Surbahi Publications. 2000.
- 5) Rashmi Bajaj, *Women Indo Anglian Poets: A critique*. New Delhi. Asian Publications 1996.
- 6) Dattani, Mahesh, "Collected Plays," Penguin Books, New Delhi, 2000.
- 7) Paranjape, Makarand. *Selections from Indian Poetry in English*.(ed), Macmillan,1993.
- 8) Mehotra, Arvind Krishna. *Oxford Anthology of 12 Modern Indian Poets*.(ed). (Oxford UP 1992).
- 10) Meenakshi Mukerjee, "*The twice Born Fiction- Themes and Techniques of the Indian Novel in English*, Waffle of the Toffs. (Heinemann, 1971)
- 11) C. D. Narasimhaiah. *Common wealth Poetry*. Macmillan.
- 12) Bhatta, Krishna, *Indian English Drama: A Critical Study*. N. Delhi. Sterling Publishers pvt.ltd,1987.
- 13) Chaudhari, Asha Kuthari. *Contemporary Indian Writers in English, Mahesh Dattani: An Introduction*. N.Delhi, Foundation Books.
- 14) Iyenger, K.R Srinavasa. *Indian Writing in English*. N.D Sterling 1995.
- 15) Naik, M.K. A History of Indian Literature, N.D Sahitya Academy.1982
- 16) Multani, Angelie. *Critical Perspectives in Mahesh Dattani's plays*. N.D Pencraft International, 2007
- 17) Adaya, Rangacharya. *Indian Drama*, ed. H.H Anniah Gowda Mysore, 1974.
- 18) Daruwalla, K. *Indian Literature in English*. Critical views. New Delhi. Sarupn Sons.

- 19) Rushdie, Salman. *The Vintage Book of Indian Writing*.
- 20) Chaudhari, Amit. *The Picador Book of modern Indian Literature*
- 21) Margaret Paul, Joseph. *Jasmine on a String. A Survey of Woman Writing English Fiction in India*. OUP.2014.
- 22) King, Brice Aluca. *Modern Indian Poetry in English*. New Delhi. OUP. 1987.
- 23) Mehotra, Arvind Kashap. (ed). *A History of Indian Literature in English* New York, Columbia. UP 2003(Doaba books 16 Ansari Road New Delhi.
- 24) Mehotra. *A Concise History Indian literature in English*. 2008.
- 25) Adil Jusswalla, Eunice De Souza, "Statements : Anthology of Indian Prose in English" Orient Blackswan,Hydrabad,1989.
- 26) William Walsh, "Indian Literature in English" Longman, London, 1990.
- 27) Meenakshi, Mukherjee. *Twice Born Fiction: Indian Novel in English* 1972.
- 28) Meenakshi Mukherjee. *Realism and Reality: The Novel and Society in India*. Oxford University Press, 1985.
- 29) Meenakshi Mukherjee. *The Perishable Empire: Essays on Indian Writing in English*.2003. Oxford University Press.

Mode of Examination

There shall be three sections A, B & C

Four credit course shall be of three hour duration and shall comprise the following:

Section A: will consist of 10 multiple choice questions, two from each unit. Each question shall be of 1.5 marks (total 15 marks).

Section B: will consist of 10 short answer questions, two from each unit. Each question shall be of 8 marks. The candidate is required to conduct any 5 questions, selecting at least 1 from each unit.(total 40 marks) Word Limit-(150-200)

Section C: will consist of 5 long answer questions, one from each unit. Each question shall be of 15 marks. The candidate is required to attempt any three questions (total 45 marks) Word Limit-(300-350)

Department of English

APPROVED

Name of Course: Gore

Course Code: PGECL2C009T


Title of Course: Indian Writing in English

Objective

The objective of the course is to introduce students to the study of Indian literature in English through the study of selected literary texts. The course will study the development of Indian Writing in English in all the periods and will aim to create a sense of appreciation for the Indian literary text. This course will also focus on the creative and innovative use of language employed by the writers and will provide a perspective into the diverse aspects of Indian writings in English. The course will introduce to the key concepts & terms of IWE. Topics to be covered include: *Classification of language, Writing back, Decolonisation, Post-colonialism, Indian Writing and Literature, Hindi, Imitative, Creative, Critical Perspective.*

Unit II: Essays

1. Macaulay: "Minute on Indian Education"

Lawrence  2018

Subject : Minutes and Annexures of 6th BOS

ANNEX

rtment of English.

Roshanlal Sharma <roshanlal.sharma@gmail.com>
To: English Cuj <englishdepartmentcuj@gmail.com>

Fri, Feb 28, 2020 at 4:34 AM

I hereby approve the minutes.

With all my best

Roshan Lal Sharma
HoD (English)
CUHP, Dharamshala
[Quoted text hidden]

Roshan Lal Sharma, PhD
Professor & Head, Department of English
Director (Research), Dean, Students' Welfare, Proctor
Central University of Himachal Pradesh, Dharamshala,
District Kangra, Himachal Pradesh--176215 (INDIA)
(Mob.) 91+8626825108; 91+9418013739

[Handwritten signature]
3.3.2020

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[Handwritten signature]

Subject : Minutes and Annexures of 6th BOS of the Department of English.

Radharani Chakravarty <radha@aud.ac.in>

Thu, Feb 20, 2020 at 5:36 PM

To: English Cuj <englishdepartmentcuj@gmail.com>

Cc: Roshanlal Sharma <roshanlal.sharma@gmail.com>, "viveksachdeva09@gmail.com"

<viveksachdeva09@gmail.com>, vandana sharma <vandanahinc1979@gmail.com>, Neena Vij

<neenaguptavij@gmail.com>, farooqafzal76 <farooqafzal76@yahoo.in>, raj thakur <thakurraj.13@gmail.com>, Parveen

Kumari <pleiades.the7@gmail.com>, Vandana sharma <vandanacuj2017@gmail.com>, "vandana.eng@cuammu.ac.in"

<vandana.eng@cuammu.ac.in>

The minutes are approved, with one correction:

Agenda item 6.2, point (v):

Please change "intersexuality" to "intersectionality".

Thanks and regards,

Radha Chakravarty

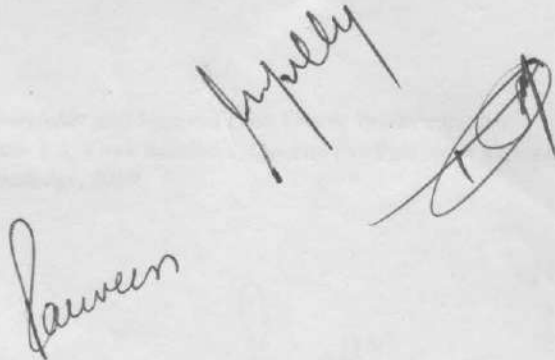
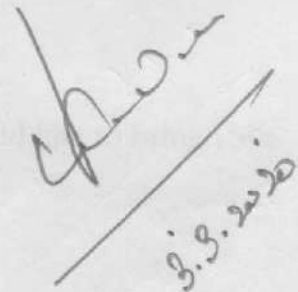
[Quoted text hidden]

Besides one correction suggested by Prof. Radha Chakravarty, I want to draw attention to Paper III point (v). It should be "of be". Best is all.

Thanks and regards

Yash Acharya

Assistant



Subject : Minutes and Annexures of 6th BOS of the Department of English.

Vivek Sachdeva <viveksachdeva09@gmail.com>

Mon, Mar 2, 2020 at 10:18 PM

To: English Cuj <englishdepartmentcuj@gmail.com>, Vandana sharma <vandanacuj2017@gmail.com>

Kindly find below my comments on the minutes of the meeting of the Board of Studies.

Warm regards

Vivek Sachdeva

----- Forwarded message -----

From: **Vivek Sachdeva** <viveksachdeva09@gmail.com>

Date: Wed, 26 Feb 2020 at 13:11

Subject: Re: Subject : Minutes and Annexures of 6th BOS of the Department of English.

To: Radharani Chakravarty <radha@aud.ac.in>

The minutes are in order

Besides one correction suggested by Prof. Radha Charkvarthy, I would like to bring your attention to Paper III point (i). It should be 'to be'.

Rest is fine.

Thanks and regards

Vivek Sachdeva

[Quoted text hidden]

--

Professor

University School of Humanities and Social Sciences

GGSIU University, New Delhi

Author: Fiction to Film: Ruth Praver Jhabvala's *The Householder* and *Heat and Dust*. Orient Blackswan, 2017.

Editor: *Identities in South Asia: Assertions and Conflicts*. Ed. Vivek Sachdeva, Queeny Pradhan, Anu Venugopalan. Routledge, 2019.

Author: *Shyam Benegal's India: Alternative Images*. Routledge, 2019.

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Author: Fiction to Film: Ruth Praver Jhabvala's *The Householder* and *Heat and Dust*. Orient Blackswan, 2017.

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Author: *Shyam Benegal's India: Alternative Images*. Routledge, 2019.


3.3.2020





CENTRAL UNIVERSITY OF JAMMU

Minutes of meetings Board of Studies Meeting

Date: 31-01-2020 Time: 2:30 PM



Department of Physics and Astronomical Sciences

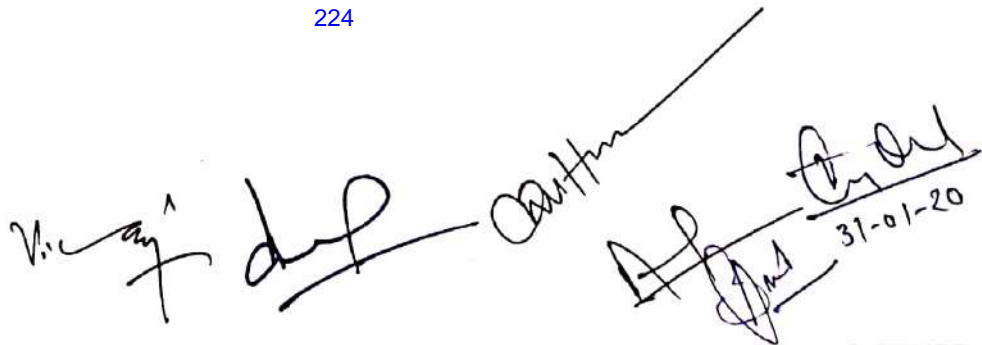
जम्मू केंद्रीय विश्वविद्यालय
Central University of Jammu
राया-सूचानी (बागला), साम्बा-181143, जम्मू (जम्मू और कश्मीर)
Rahya-Suchani (Bagla), Samba-181143, Jammu (J & K)

Agenda for the Conduct of 4th Board of Studies meeting on Jan 31, 2020

The agenda of the meeting are the following:

1. Adoption of SCHEME OF CHOICE BASED CREDIT SYSTEM(CBCS) FOR Six Semester (B.Sc Honours) under B.Sc(H)-M.Sc. Degree programme in Physics as per UGC.
2. With reference to 11th AC minutes agenda 15: As a result of introduction of an exit option in the integrated program, it was decided that the name of the existing degree [i.e Five Year Integrated MSc (Physics)] to be considered as the name of the first degree- name of the final degree [i.e. BSc (H) - MSc (Physics)], keeping in view the policies of the Honour Degree Program. **Consequently, restructure course matrix and syllabi for the first two semesters.**
3. To recommend Generic Elective for other Department to be offered by Department of Physics and Astronomical Sciences.
4. Inclusion of two courses [Special Paper -I and -II in IXth and Xth semesters respectively] for Five years Integrated M.Sc. (Physics) Program.
5. Adoption of new Course Code Scheme.
6. To discuss and include relevant allied subjects at the M.Sc. level in the eligibility criterion for faculty recruitment purpose in the Department.
7. Update list of Examiner(s) for various purposes like paper setter, evaluator, thesis examiners for different programmes of the department.
8. Any other matter with the permission of the chair.

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Handwritten signatures and date: 31-01-20

Minutes of the 4th Board of Studies, Department of Physics & Astronomical Sciences, Central University of Jammu, held on Jan 31, 2020

The 4th Board of Studies meeting was held in the Department of Physics & Astronomical Sciences, Central University of Jammu, Samba on Jan 31, 2020. The following members were present in the meeting:

1. Dr. Vinay Kumar, Associate Professor & Head of the Department
2. Prof. Naresh Padha, (External Expert) Department of Physics, University of Jammu
3. Prof. Arun Bharti, (External Expert) Department of Physics, University of Jammu
4. Dr. Suram Singh, Associate Professor
5. Dr. Avinash Chand Yadav, Assistant Professor
6. Dr. Tanuj Deswal, Assistant Professor, Department of Nano Sciences & Materials
7. Dr. Jehova Jire L. Hmar, (invitee member), Assistant Professor

All agenda items were thoroughly discussed, and the following decisions were pointed:

Agenda 1. : Adoption of SCHEME OF CHOICE BASED CREDIT SYSTEM(CBCS) FOR Six Semester (B.Sc Honours) under B.Sc(H)-M.Sc. Degree programme in Physics as per UGC.

Decision: The BOS recommends the Adoption of SCHEME OF CHOICE BASED CREDIT SYSTEM(CBCS) FOR Six Semester (B.Sc Honours) under B.Sc(H)-M.Sc. Degree programme in Physics as per UGC.

Agenda 2. With reference to 11th AC minutes agenda 15: As a result of introduction of an exit option in the integrated program, it was decided that the name of the existing degree [i.e Five Year Integrated MSc (Physics)] to be considered as the name of the first degree- name of the final degree [i.e. BSc (H) - MSc (Physics)], keeping in view the polices of the Honour Degree Program. Consequently, to restructure course matrix and syllabi for the first two semesters.

Decision: Incorporating the suggestions, the course matrix for the first two semester [as per UGC Choice Based Credit System (CBCS) for UG Honour Degree] and syllabi of papers [Physics specific discipline] are approved. It is suggested to apply the new structure from the upcoming academic session (2020-21).

Agenda 3. : To recommend Generic Elective for other Department to be offered by Department of Physics and Astronomical Sciences.

Decision: The BOS recommends the General Physics course (3-1-0) 4 credits and General Physics Lab (0-0-4) 2 credits for other department of University.

Agenda 4: Inclusion of two courses [Special Paper -I and -II in IXth and Xth semesters respectively] for Five years Integrated M.Sc. (Physics) Program.

Decision: The BOS recommends the two courses relevant to Nuclear Physics for inclusion in the Five years Integrated M.Sc. (Physics) Program.

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Agenda 5. : Adoption of new Course Code Scheme.

Decision: The BOS recommends new course code scheme as given in table below:

IC	Integrated Dual Degree
PHY	Physics
COR	Core
AEC	Ability Enhancement Compulsory
AEE	Ability Enhancement Elective
DSE	Discipline Specific Elective
GE	Generic Elective

For example: ICPHYICOR01T or ICPHYICOR01L: IC- Integrated Programme, PHY- Department, 1 Semester, COR- Type of Course, 01 No. of Course, T- Theory, L- Lab

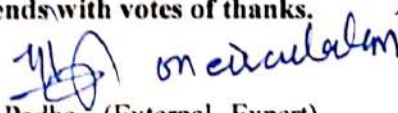
Agenda 6. To discuss and include relevant allied subject at the MSc level level in the eligibility criterion for faculty recruitment purpose in the Department.

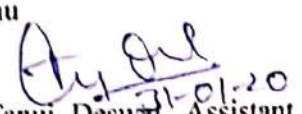
Decision: The BOS recommends the following subjects [Physics/ Astrophysics/ Applied Physics] to be considered as allied subject at the MSc level for faculty recruitment purpose in the Department.


Agenda 7. Update list of Examiner(s) for various purposes like paper setter, evaluator, thesis examiners for different programmes for the department.

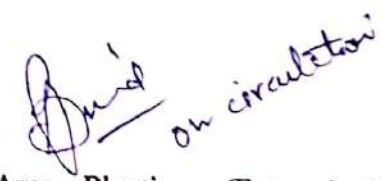
Decision: The BOS recommends the list of Examiner(s) [for various purposes like paper setter, evaluator, thesis examiners] is updated. It is also suggested to authorize the HOD to include a suitable examiner in an emergent situation.

The meeting ends with votes of thanks.



Prof. Naresh Padha, (External Expert)
Department of Physics, University of Jammu

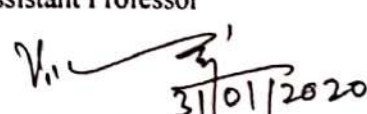

Dr. Tanuj Deswal, Assistant Professor,
Department of Nano Sciences & Materials


Dr. Avinash Chand Yadav, Assistant Professor


Prof. Arun Bharti, (External Expert)
Department of Physics, University of Jammu


Dr. Suram Singh, Associate Professor


Dr. Jehova Jire L. Hmar, (invitee member),
Assistant Professor


Dr. Vinay Kumar, Associate Professor &
Head of the Department

Central University of Jammu

Agenda

Board of Studies



Date : 31-01-2020

Department of Physics & Astronomical Sciences

जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया-सूचानी (बागला), साम्बा-181143, जम्मू (जम्मू और कश्मीर)

Rahya-Suchani (Bagla), Samba-181143, Jammu (J & K)

Abbreviations

Related to contact hours

- L: Lecture
T: Tutorial
P: Practical

Types of courses

Sr. No.	Type of Course	Brief
1	Core Course	COR
2	Ability Enhancement Compulsory Course	AEC
3	Ability Enhancement Elective Course	AEE
4	Discipline Specific Elective	DSE
5	Generic Elective	GE

Weightage of different assessment components

Sr. No.	Component	Brief	Weightage (%)
1	Continuous Internal Assessment	CIA	25
2	Mid Semester Assessment	MSA	25
3	End Semester Assessment	ESA	50
	Total		100

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10/2020

General Note for Paper Setting

1. The Question Papers for the Mid-Semester Examination shall be as follows:

- In four credit course, the paper shall be of 2 (two) hours duration and shall comprise the following sections:

Section	Type	No. of Questions	To Attempt	Marks per question	Marks
A	Objective	10	10	1	10
B	Short Answer type	5	3	6	18
C	Essay/Long Answer Type	2 (with internal choice)	2	11	22
Total					50

Detailed description of the above table is:

- Section A shall have 10 (Ten) objective type questions (Multiple choice) of one mark each. All questions in this section shall be compulsory (Total 10 Marks);
- Section B shall have 5 (Five) Short Answer Questions (SAQ) of 6 (six) Marks each, out of which the examinees shall be required to attempt any three questions (Total 18 Marks);
- Section C shall have 2 (Two) Essay/Long Answer Questions (one from each unit with internal choice), of 11 (Eleven) Marks each (Total 22 Marks); alternatively, if the course so requires, this section may comprise a case study of 11 marks and one question with internal choice of 11 Marks;

2. The Question Papers for the End-Semester Examination shall be as follows:

- In four credit course, the paper shall be of 3 (three) hours duration and shall comprise the following sections:

Section	Type	No. of Questions	Examinees To Attempt	Marks per question	Marks
A	Objective	10	10	1.5	15
B	Short Answer type	10 (two from each units)	5	8	40
C	Essay/Long Answer Type	5 (one from each Unit)	3	15	45
Total					100

Detailed description of the above table is:

- Section A shall have 10 (Ten) objective type questions (Multiple choice) of 1.5 mark each. All questions in this section shall be compulsory (Total 15 Marks);
- Section B shall have 10 (Ten) Short Answer Questions (SAQ) (two from each unit) of 8 (eight) Marks each, out of which the examinees shall be required to attempt any five questions (Total 40 Marks);
- Section C shall have 5 (Five) Essay/Long Answer Questions (one from each unit), of 15 (Fifteen) Marks each, out of which the examinees shall be required to attempt any three questions (Total 45 Marks);

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As a general rule, a course of one credit shall require a work load of thirty hours comprising:

- (i) 10 hours of Lectures/organized Classroom Activities/ Contact Hours.
- (ii) 05 hours of laboratory Work/ Practicals / field Work/ Tutorials/ Teachers-led activities.
- (iii) 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/ dissertation/ thesis; seminars etc.

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31/1/20
31/1/20
31/01/2020
31/01/2020
31/01/2020
31/01/2020

CENTRAL UNIVERSITY OF JAMMU

Central University of Jammu Department of Physics and Astronomical Sciences

SCHEME OF CHOICE BASED CREDIT SYSTEM(CBCS) FOR Six Semester (B.Sc Honours) under B.Sc(H)-M.Sc. Degree programme in Physics

Semester	CORE COURSE (14)	Ability Enhancement Compulsory Course (AECC) (2)	Ability Enhancement Elective Course (AECC) (2) (Skill Based)	Elective: Discipline Specific DSE (4)	Elective: Generic (GE) (4)
I	Mathematical Physics-I (4+2)	(English/MIL Communication) /Environmental Science			GE-1
	Mechanics (4 +2)				
II	Electricity & Magnetism (4+2)	Environmental Science/ (English/MIL Communication)			GE-2
	Waves and Optics (4 + 2)				
III	Mathematical Physics-II (4 + 2)		AECC -1		GE-3
	Digital Systems and Applications (4+2)				
	Thermal Physics (4+2)				
IV	Mathematical Physics-III (4+2)		AECC -2		GE-4
	Elements of Modern Physics (4+2)				
	Analog Systems & Applications (4+2)				
V	Quantum Mechanics And Applications (4+ 2)			DSE-1	
	Solid State Physics (4 + 2)			DSE-2	
VI	Electromagnetic Theory (4+2)			DSE-3	
	Statistical Mechanics (4 + 2)			DSE-4	

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Recommendation of Scheme/Courses Opted for first two semesters

SEMESTER	COURSE OPTED	COURSE NAME	Credits
I	Ability Enhancement Compulsory Course-I	English	2
	Core course-I	Mathematical Physics-I	4
	Core Course-I Practical/Tutorial	Mathematical Physics-I Lab	2
	Core course-II	Mechanics	4
	Core Course-II Practical/Tutorial	Mechanics Lab	2
	Generic Elective -1	Chemistry-I	4
	Generic Elective -1 Practical/Tutorial	Chemistry Lab-I	2
	Total credits		
II	Ability Enhancement Compulsory Course-II	Environmental Science	2
	Core course-III	Electricity and Magnetism	4
	Core Course-III Practical/Tutorial	Electricity and Magnetism Lab	2
	Core course-IV	Waves and Optics	4
	Core Course-IV Practical/Tutorial	Waves and Optics Lab	2
	Generic Elective -2	Introduction to Computers	4
	Generic Elective -2 Practical/Tutorial	Computer Lab	2
	Total Credits		

Generic Electives for other department

Generic Elective -3	General Physics	4
Generic Elective -3 Practical/Tutorial	General Physics Lab	2

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 A. A. A. 31/01/20
 A. A. A. 31/01/20

B.Sc(H)-M.Sc. Physics			
Semester :	I	Type:	Core
Course Name:	Mathematical Physics-I	Course Code:	ICPHY1COR01T
Credits:	4	L T P:	3-1-0

(The emphasis of course is on applications in solving problems of interest to physicists. The students are to be examined entirely on the basis of problems, seen and unseen.)

UNIT-I

Recapitulation: Limits, continuity, average and instantaneous quantities, differentiation. Plotting functions. Intuitive ideas of continuous, differentiable, etc. functions and plotting of curves. Approximation: Taylor and binomial series. First Order Differential Equations and Integrating Factor.

UNIT-II

Second Order Differential equations: Homogeneous Equations with constant coefficients Wronskian and general solution. Statement of existence and Uniqueness Theorem for Initial Value Problems. Particular Integral. Calculus of functions of more than one variable: Partial derivatives, exact and inexact differentials. Integrating factor, with simple illustration. Constrained Maximization using Lagrange Multipliers.

UNIT-III

Orthogonal Curvilinear Coordinates. Derivation of Gradient, Divergence, Curl and Laplacian in Cartesian, Spherical and Cylindrical Coordinate Systems. Definition of Dirac delta function. Representation as limit of a Gaussian function and rectangular function. Properties of Dirac delta function.

UNIT-IV

Recapitulation of vectors: Properties of vectors. Scalar product and its invariance under rotations. Vector product, Scalar triple product and their interpretation in terms of area and volume respectively. Scalar and Vector fields. Vector Differentiation: Directional derivatives and normal derivative. Gradient of a scalar field and its geometrical interpretation. Divergence and curl of a vector field. Del and Laplacian operators. Vector identities, Gradient, divergence, curl and Laplacian in spherical and cylindrical coordinates.

UNIT-V

Vector Integration: Ordinary Integrals of Vectors. Multiple integrals, Jacobian. Notion of infinitesimal line, surface and volume elements. Line, surface and volume integrals of Vector fields. Flux of a vector field. Gauss' divergence theorem, Green's and Stokes Theorems and their applications (no rigorous proofs).

Text and Reference Books:

1. Mathematical Methods for Physicists, G.B. Arfken, H.J. Weber, F.E. Harris, 2013, 7th Edn., Elsevier.
2. Differential Equations, George F. Simmons, 2007, McGraw Hill.
3. Mathematical Tools for Physics, James Nearing, 2010, Dover Publications.
4. Mathematical methods for Scientists and Engineers, D.A. McQuarrie, 2003, Viva Book.
5. Advanced Engineering Mathematics, D.G. Zill and W.S. Wright, 5 Ed., 2012, Jones and Bartlett Learning.
6. Advanced Engineering Mathematics, Erwin Kreyszig, 2008, Wiley India.

B.Sc(H)-M.Sc. Physics

Semester :	1	Type:	Core
Course Name:	Mathematical Physics-I Lab	Course Code:	ICPHY1COR02L
Credits:	2	L T P:	0-0-4

The aim of this Lab is not just to teach computer programming and numerical analysis but to emphasize its role in solving problems in Physics.

- Highlights the use of computational methods to solve physical problems
- The course will consist of lectures (both theory and practical) in the Lab
- Evaluation done not on the programming but on the basis of formulating the problem
- Aim at teaching students to construct the computational problem to be solved
- Students can use any one operating system Linux or Microsoft Windows

List of Experiments:

Topics	Description with Applications
Introduction and Overview	Computer architecture and organization, memory and Input/output devices
Basics of scientific computing	Binary and decimal arithmetic, Floating point numbers, algorithms, Sequence, Selection and Repetition, single and double precision arithmetic, underflow & overflow-emphasize the importance of making equations in terms of dimensionless variables, Iterative methods
Errors and error Analysis	Truncation and round off errors, Absolute and relative errors, Floating point computations.
SCI lab	Solution of linear and quadratic equation, Matrix operation, Random number generation etc.
	Evaluation of trigonometric functions e.g. $\sin \theta$, $\cos \theta$, $\tan \theta$, etc.
	Given Position with equidistant time data to calculate velocity and acceleration and vice versa. Find the area of B-H Hysteresis loop
	To Solve the different types of Differential equations.

Text and Reference Books:

1. Introduction to Numerical Analysis, S.S. Sastry, 5thEdn. , 2012, PHI Learning Pvt. Ltd.
2. Schaum's Outline of Programming with C++. J. Hubbard, 2 0 0 0 , McGraw---Hill Pub.
3. Numerical Recipes in C: The Art of Scientific Computing, W.H. Pressetal, 3^rdEdn. , 2007, Cambridge University Press.
4. A first course in Numerical Methods, U.M. Ascher& C. Greif, 2012, PHI Learning.
5. Elementary Numerical Analysis, K.E. Atkinson, 3^rd E d n . , 2 0 0 7 , Wiley India Edition.

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B.Sc(H)-M.Sc. Physics

Semester :	I	Type:	Core
Course Name:	Mechanics Lab	Course Code:	ICPHY1COR04L
Credits:	2	L T P:	0-0-4

List of Experiments:

1. Measurements of length (or diameter) using vernier caliper, screw gauge and travelling microscope.
2. To study the random error in observations.
3. To determine the height of a building using a Sextant.
4. To study the Motion of Spring and calculate (a) Spring constant, (b) g and (c) Modulus of rigidity.
5. To determine the Moment of Inertia of a Flywheel.
6. To determine g and velocity for a freely falling body using Digital Timing Technique
7. To determine Coefficient of Viscosity of water by Capillary Flow Method (Poiseuille's method).
8. To determine the Young's Modulus of a Wire by Optical Lever Method.
9. To determine the Modulus of Rigidity of a Wire by Maxwell's needle.
10. To determine the elastic Constants of a wire by Searle's method.
11. To determine the value of g using Bar Pendulum.
12. To determine the value of g using Kater's Pendulum.

Text and Reference Books:

1. Advanced Practical Physics for students, B. L. Flint and H.T. Worsnop, 1971, Asia Publishing House.
2. Advanced level Physics Practicals, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers
3. A Text Book of Practical Physics, I.Prakash & Ramakrishna, 11th Edn, 2011, Kitab Mahal.

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B.Sc(H)-M.Sc. Physics			
Semester :	II	Type:	Core
Course Name:	Electricity and Magnetism	Course Code:	ICPHY2COR01T
Credits:	4	L T P:	3-1-0

Unit-I

Vector algebra: Gradient, Divergence, Curl, second derivatives and fundamental theorems for divergence and curl. Electrostatics: Coulomb's law, principle of superposition, Concept of electric field, electric potential, Electric field and potential due to discrete and continuous charge distribution, relation between electric intensity and potential, electric dipole and dipole moment, electric potential and field at any point due to a dipole, Gauss's theorem in electrostatics, conductors, capacitor, electrostatics energy.

Unit-II

Dielectrics: non-polar molecules, Polar molecules, Polar and non-polar molecules in an electric field, polarization, Electric polarization of matter, polarization charges and polarization vector, electric susceptibility Electric polarization vector, Electric field in dielectric, Gauss law in dielectric, Relation between three electric vectors: displacement vector (D), electric vectors (E), and polarization vectors (P), capacitance, Effect of dielectric on capacitance.

Unit-III

Magnetostatics: Concept of magnetic field, Biot-Savart's law, application of Biot-Savart's law, Ampere's circuital law. Gauss's law of magnetism, Magnetic field: Magnetic field inside a toroid, solenoid, magnetic dipole moment, magnetisation of matter, relation between magnetic field (B), magnetism intensity (H) and magnetization vector (M), Magnetic susceptibility and permeability

Unit-IV

Electromagnetic induction: Magnetic flux, Faraday's experiments, Faraday's law of electromagnetic induction, Lenz's law, Self induction, Mutual induction, energy stored in a magnetic field Alternating current circuits. Ballistic galvanometer: current and charge sensitivity, electromagnetic damping, logarithmic damping.

Unit-V

Current electricity: electric current, current density, Equation of continuity, surface charge density, Ohm's law, Relation between current density and resistivity, electric power, electric energy, current and power in an electrical circuit, Joule's law in electricity.

Text and Reference Books:

1. Edward M. Purcell, Electricity and Magnetism, (McGraw-Hill Education).
2. Arthur F. Kip, Fundamentals of Electricity and Magnetism, (Mc Graw-Hill).
3. J.H.Fewkes & John Yarwood, Electricity and Magnetism, (Oxford Univ. Press).
4. David J. Griffiths, Introduction to Electrodynamics, (Benjamin Cummings).

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B.Sc(H)-M.Sc. Physics			
Semester :	II	Type:	Core
Course Name:	Electricity and Magnetism Lab	Course Code:	ICPHY2COR02L
Credits:	2	L T P:	0-0-4

1. Resistance

- (i) To test a diode and transistor using (a) a multimeter and (b) a CRO.
- (ii) To measure (a) voltage, (b) frequency and (c) phase difference using a CRO .
- (iii) To study the characteristics of a series RC circuit using R, L and C.
- (iv) To determine a low resistance by Carey Foster's Bridge.
- (v) To determine a low resistance by a potentiometer.
- (vi) To determine high resistance by leakage of a capacitor.

2. Ballistic Galvanometer

- (i) To determine the (a) charge sensitivity and (b) current sensitivity of B.G.
- (ii) To determine the (a) logarithmic decrement and (b) CDR of a B.G.

3. Capacitance

- (i) To determine the ratio of two capacitances by de Sauty's bridge.
- (ii) To determine the dielectric constant of a dielectric placed inside a parallel plate capacitor using a B.G.

4. Self & Mutual Inductance

- (i) To determine self inductance of a coil by Anderson's bridge using AC.
- (ii) To determine self inductance of a coil by Rayleigh's method.
- (iii) To determine the mutual inductance of two coils by absolute method using a B.G.

5. A.C Circuits

- (i) To study the response curve of a series LCR circuit and determine its (a) resonant frequency, (b) impedance at resonance and (c) quality factor Q, and (d) band width.
- (ii) To study the response curve of a parallel LCR circuit and determine its (a) anti-resonant frequency and (b) quality factor Q.

Text Book sand References:

1. Geeta Sanon, B.Sc Practical Physics, (R.Chand &Co).
2. B.L.Workshop and H.T. Flint, Advanced Practical Physics, (Asia Publishing House, New Delhi).
3. Indu Prakash and Ramakrishna, A Text Book of Practical Physics, (Kitab Mahal, New Delhi).
4. D.P. Khandewal, A Laboratory Manual of Physics for Undergraduate Classes, (VaniPublication House, New Delhi).

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B.Sc(H)-M.Sc. Physics			
Semester :	II	Type:	Core
Course Name:	Waves and Optics	Course Code:	ICPHY2COR03T
Credits:	4	L T P:	3-1-0

Unit-I

Linearity and Superposition Principle. Superposition of two collinear oscillations having (1) equal frequencies and (2) different frequencies (Beats). Superposition of N collinear Harmonic Oscillations with (1) equal phase differences and (2) equal frequency differences. Lissajous Figures with frequency ratio (1:1 and 1:2).

Unit-II

Plane and Spherical Waves. Longitudinal and Transverse Waves. Travelling Waves. Wave Equation. Pressure of a Longitudinal Wave. Energy Transport. Intensity of Wave. Velocity of Transverse Vibrations of Stretched Strings. Velocity of Longitudinal Waves in a Fluid in a Pipe. Standing (Stationary) Waves in a String, Energy of Vibrating String. Transfer of Energy. Normal Modes of Stretched Strings. Melde's Experiment. Longitudinal Standing Waves and Normal Modes.

Unit-III

Electromagnetic nature of light. Huygens Principle. Temporal and Spatial Coherence. Interference: Division of amplitude and wavefront. Young's double slit, Lloyd's Mirror and Fresnel's Biprism. Phase change on reflection: Stokes' relations. Interference in Thin Films, Fringes of equal inclination, Fringes of equal thickness, Newton's Rings. Michelson Interferometer, Visibility of Fringes. Fabry-Perot interferometer.

Unit-IV

Diffraction: Fraunhofer and Fresnel, Single slit. Circular aperture, Resolving Power of a telescope. Double slit. Multiple slits. Diffraction grating. Resolving power of grating. Fresnel's Half-Period Zones for Plane Wave. Explanation of Rectilinear Propagation of Light. Theory of a Zone Plate: Multiple Foci of a Zone Plate. Fresnel's Integral, Fresnel diffraction pattern of a straight edge, a slit and a wire.

Unit-V

Introduction to polarization, Types of polarization- plane, circular, elliptical. Polarization by reflection of light, Brewster's law, Law of Malus, Polarisation by double refracting uniaxial crystal, Linear polarizer (Polaroid), Fabrication of linear polarizer by Nicol prism.

Text and Reference Books

1. Waves: Berkeley Physics Course, vol. 3, Francis Crawford, 2007, Tata McGraw-Hill.
2. Fundamentals of Optics, F.A. Jenkins and H.E. White, 1981, McGraw-Hill
3. Principles of Optics, Max Born and Emil Wolf, 7th Edn., 1999, Pergamon Press.
4. Optics, Ajoy Ghatak, 2008, Tata McGraw Hill.
5. The Physics of Vibrations and Waves, H. J. Pain, 2013, John Wiley and Sons.
6. The Physics of Waves and Oscillations, N.K. Bajaj, 1998, Tata McGraw Hill.

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B.Sc(H)-M.Sc. Physics			
Semester :	II	Type:	Core
Course Name:	Waves and Optics Lab	Course Code:	ICPHY2COR04L
Credits:	2	L T P:	0-0-4

1. Springs

- (i) To study the motion of a spring and calculate (a) spring constant (b) value of g, and modulus of rigidity.
- (ii) To investigate the motion of coupled oscillators.

2. Melde's Experiment

- (i) To determine the frequency of an electricity maintained tuning fork by Melde's experiment.
- (ii) To verify λ^2 -T law by Melde's experiment.

3. Interference

- (i) To determine wavelength of sodium light using Fresnel bi-prism.
- (ii) To determine wavelength of sodium light using Newton's rings.
- (iii) To determine the thickness of a thin paper by measuring the width of the interference fringes produced by a wedge-shaped film.
- (iv) To determination wavelength of sodium light Michelson's interferometer.

4. Diffraction

- (i) To determine the diameter of a thin wire by studying the diffraction produced by it.
- (ii) To determine the wavelength of laser light using diffraction of single slit.
- (iii) To determine the wavelength of (1) sodium and (2) mercury light using plane diffraction grating.
- (iv) To determine the dispersive power of a plane diffraction grating.
- (v) To determine the resolving power of a plane diffraction grating.
- (vi) To determine the (1) wavelength and (2) angular spread of He-Ne laser using plane diffraction grating
- (vii) To study the polarization of light by reflection and to determine the polarizing angle for air-glass interface.
- (viii) To measure the intensity using photosensor and laser in diffraction patterns of single and double slits.

Text Books and References:

1. B.L. Workshop and H.T. Flint, Advanced Practical Physics, (Asia Publishing House, New Delhi).
2. InduPrakash and Ramakrishna, A Text Book of Practical Physics, (Kitab Mahal, New Delhi).
3. D. P. Khandewal, A Laboratory Manual of Physics for Undergraduate Classes, (VaniPublication House, New Delhi).

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B.Sc(H)-M.Sc. Physics			
Semester :	II	Type:	Generic Elective
Course Name:	General Physics	Course Code:	ICPHY2GE3T
Credits:	4	L T P:	3-1-0

Unit-I

Laws of Thermodynamics-I: Thermodynamic Description of system: Zeroth Law of thermodynamics and temperature. First law and internal energy, conversion of heat into work, Various Thermodynamical Processes, Applications of First Law: General Relation between C_p and C_v , Work Done during Isothermal and Adiabatic Processes, Compressibility and Expansion Coefficient, Reversible and irreversible processes.

Unit-II

Laws of Thermodynamics-II: Second law and Entropy, Carnot's cycle & theorem, Entropy changes in reversible & irreversible processes, Entropy-temperature diagrams, Enthalpy, Gibbs, Helmholtz and Internal Energy functions, Third law of thermodynamics. Concept of absolute zero temperature.

Unit-II

Kinetic Theory of Gases: Derivation of Maxwell's law of distribution of velocities and its experimental verification, Mean free path (Zeroth Order), Transport Phenomena: Viscosity, Conduction and Diffusion (for vertical case), Law of equipartition of energy (no derivation) and its applications to specific heat of gases; mono-atomic and diatomic gases.

Unit-II

Theory of Radiation: Blackbody radiation, Spectral distribution, Concept of Energy Density, Derivation of Planck's law, Deduction of Wien's distribution law, Rayleigh-Jeans Law, Stefan Boltzmann Law and Wien's displacement law from Planck's law.

Unit-II

Electrostatics: Electrostatic Field, electric flux, Gauss's theorem of electrostatics. Applications of Gauss theorem- Electric field due to point charge, infinite line of charge, uniformly charged spherical shell and solid sphere, plane charged sheet, charged conductor.

Magnetism: Magnetostatics: Biot-Savart's law and its applications- straight conductor, circular coil, solenoid carrying current. Magnetic properties of materials: Magnetic intensity, magnetic induction, permeability, magnetic susceptibility. Brief introduction of dia-, para- and ferro-magnetic materials.

Reference Books:

1. Thermal Physics, S. Garg, R. Bansal and C. Ghosh, 1993, Tata McGraw-Hill.
2. A Treatise on Heat, Meghnad Saha, and B.N. Srivastava, 1969, Indian Press.
3. Thermodynamics, Enrico Fermi, 1956, Courier Dover Publications.
4. Thermodynamics, Kinetic theory & Statistical thermodynamics, F.W.Sears and G.L. Salinger. 1988, Narosa
5. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.
6. Electricity and Magnetism, Edward M. Purcell, 1986, McGraw-Hill Education
7. Electricity & Magnetism, J.H. Fewkes & J.Yarwood. Vol. I, 1991, Oxford Univ. Press

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B.Sc(H)-M.Sc. Physics

Semester :	II	Type:	Generic Elective
Course Name:	General Physics Lab	Course Code:	ICPHY2GE3L
Credits:	2	L T P:	0-0-4

1. To determine Mechanical Equivalent of Heat, J, by Callender and Barne's constant flow method.
2. To determine the Coefficient of Thermal Conductivity of Cu by Searle's Apparatus.
3. To determine the Coefficient of Thermal Conductivity of Cu by Angstrom's Method.
4. To determine the Coefficient of Thermal Conductivity of a bad conductor by Lee and Charlton's disc method.
5. To determine the Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT).
6. To study the variation of Thermo-Emf of a Thermocouple with Difference of Temperature of its Two Junctions.
7. (i) To test a diode and transistor using (a) a multimeter and (b) a CRO.
(ii) To measure (a) voltage, (b) frequency and (c) phase difference using a CRO .
(iii) To determine a low resistance by Carey Foster's Bridge.
8. To determine the (a) charge sensitivity and (b) current sensitivity of B.G.
9. To determine the ratio of two capacitances by de Sauty's bridge.
10. To determine self inductance of a coil by Anderson's bridge using AC.
11. To determine the mutual inductance of two coils by absolute method using a B.G.
12. To study the response curve of a series LCR circuit and determine its(a) resonant frequency, (b) impedance at resonance and (c) quality factor Q, and (d) band width.
13. To study the response curve of a parallel LCR circuit and determine its (a) anti-resonant frequency and (b) quality factor Q.

Text Book sand References:

1. Geeta Sanon, B.Sc Practical Physics, (R.Chand &Co).
2. B. L. Workshop and H.T. Flint, Advanced Practical Physics, (Asia Publishing House, New Delhi).
3. Indu Prakash and Ramakrishna, A Text Book of Practical Physics, (Kitab Mahal, New Delhi).
4. Advanced level Physics Practicals, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers
5. D.P. Khandewal, A Laboratory Manual of Physics for Undergraduate Classes, (Vani Publication House, New Delhi).

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Five years Integrated M.Sc. Physics			
Semester :	IX	Type:	Core
Course Name:	Special Paper-I (Nuclear Theory-I)	Course Code:	
Credits:	4	L T P:	3-1-0

Unit-I

Abstract group theory: Group postulates, Finite and infinite groups, Order of a group, subgroup, permutation group, group table, Isomorphism and Homomorphism, Cayley's theorem and its application for finding the group structures of groups of order 3,4,5 and 6. Cosets, Lagrange's theorem and its applications for determining the group structures of groups of order 4,5 and 6. Conjugate elements and classes, Invariant subgroup, Factor or Quotient groups, self-conjugate sub-groups.

Unit-II

Matrix representation, Equivalent representation, Unitary representation, Reducible and irreducible representation, characters of irreducible representation, Schur's Lemmas, Orthogonality theorem for irreducible representation of a group- statement and proof, interpretation of Orthogonality theorem, Orthogonality of characters, Continuous groups, Lie Groups- general properties and examples of Lie groups.

Unit-III

General concept of symmetries, Space and time displacements, Symmetry of Hamiltonian, Time-reversal symmetry, Time-reversal operator for spinless particles, Time reversal operator for particles with spin, Effect of time-reversal on wave function of particle, Space-inversion symmetry, The axial rotation group $SO(2)$, Generators of $SO(2)$, 3-dimensional rotation group $SO(3)$, its generators and irreducible representation.

Unit-IV

$O(4)$ and $SO(4)$ groups, $SO(4)$ as a direct product of two $SO(3)$ groups, Special unitary group $SU(2)$ and its irreducible representation, Homomorphism of $SU(2)$ on $SO(3)$, Generators of $U(n)$ and $SU(n)$, Generators of $SU(2)$, physical applications of $SU(2)$.

Unit-V

Special unitary group $SU(3)$, physical applications of $SU(3)$, formation of $SU(3)$ from elementary particles, Gell-Mann's representation of $SU(3)$ and quarks, Detailed study of Lorentz group, application of group theory to isotropic Harmonic Oscillator and Hydrogen atom.

Text and Reference Books:

1. Quantum mechanics/Symmetries(2nd edition) by W.Greiner and B.Muller.
2. Group Theory by Hammett Mesh.
3. Group Theory and Quantum Mechanics by M.Tinkham.
4. Introduction to Group theory by A.W. Joshi.
5. Applied group theory by G.G.Hall.
6. Introduction to Group theory, European Mathematical Society, O.Bogopalski.
7. Problems and solutions in group theory for physicists, World Scientific, Zhang-Qi Ma and Xiao-Yan Gu.

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Five years Integrated M.Sc. Physics			
Semester :	X	Type:	Core
Course Name:	Special Paper-II (Nuclear Theory-II)	Course Code:	
Credits:	4	L T P:	3-1-0

Unit-I

Transition from discrete to continuous vibrating system, Lagrangian and Hamiltonian Formulations for continuous systems, Euler lagrange equations and Hamilton's equations of motion, Applications of Lagrangian and Hamiltonian Formulations to Schrodinger and Electromagnetic fields, Derivation of Schrodinger and Maxwell's equations.

Unit-II

Second Quantization, second quantization of electromagnetic field and Schrodinger field, quantized field energy and momentum, commutation relation between E and H, Number representation of operators for fermions.

Unit-III

Brillowin-Wigner Perturbation series, Schrodinger, Heisenberg and Interaction representation, Theory of Scattering Matrix(S-Matrix) and its properties, Optical theorem, Symmetries of S-Matrix (Lorentz Invariance and Time reversal).Wick's theorem and its applications (Feyman diagrams).

Unit-IV

Density Operator and its equation of motion, Fermi Gas and Thomas Fermi model, Importance of Hartree-Fork(HF) method, Derivation of (HF) equation, Symmetries of HF Hamiltonian, choice of expansion for the orbits, Single major shell HF- calculations.

Unit-V

General aspects, pair creation and annihilation operators, one body and two body potentials in second quantized formalism, pairing interaction in second quantized form. Pairing theory for degenerate configuration, commutation relations of pair creation operators with pairing Hamiltonian and Number operators. Calculation of pairing matrix for two and four particles in $J=5/2$ Shell, Generalization to non-degenerate configurations. The BCS formalism, Normalization of BCS wavefunction, Application of the BCS wavefunction to the pure j-shell. Derivation of expression for occupation probability and pairing gaps, Unified model.

Text and Reference Books:

1. Classical Mechanics by Goldstein.
2. Classical Mechanics by W.Greiner.
3. Classical Mechanics by T.W.B Kibble and F.H.Berkshire.
4. Elements of Advanced Quantum Mechanics by J.M.Zimen.
5. Field Quantization by W.Greiner and J.Reinhardt.
6. Shapes and Shells in nuclear structure by S.G.Nilsson and I.Ragnarsson.
7. An introduction to Relativistic Quantum Field Theory by Silvan S.Schweber.
8. Relativistic Quantum Mechanics and introduction to Quantum field theory by Anton z.
9. Relativistic Quantum Fields by Bjorken and Drell.

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List of examiners for setting of Question papers/Evaluation of answer scripts/minor project for the B.Sc(H)-M. Sc. Physics Programme

Department of Physics and Astronomical Sciences

S. No.	Name of the Faculty	Affiliation	Contacts
1.	Prof. Naresh Padha	Department of Physics, University of Jammu, Jammu	nareshpadha@jammuuniversity.in M:9419182875
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3.	Prof. Ravi Kumar	Centre of Material Science and Engineering NIT Hamirpur H.P..-177 005 India	Mobile: 9814941401 Email: ranade65@gmail.com
4.	Prof. Arun Bharti	Department of Physics, University of Jammu, Jammu	arunbharti_2003@yahoo.co.in M:9419134355
5.	Prof. K. K. Bamazai	Department of Physics, University of Jammu, Jammu	kkbamazi@jammuuniversity.in M:9419134629
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7.	Dr. Fakir Chand	Department of Physics Kurukshetra University	fchand72kuk@gmail.com 9466481420
8.	Dr. Ramni Gupta	Department of Physics, University of Jammu, Jammu	M:9419191509
9.	Dr. Rani	Department of Physics, University of Jammu, Jammu	rani_rakwal@yahoo.co.in
10.	Dr. Yugal Khajuria	Department of Physics, Shri Mata Vaishno Devi University, Katra, Jammu	yugal@smvdu.ac.in M:9419932508
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19.	Dr. Surender Verma	Department of Physics Central University of Himachal Pradesh	s_7verma@yahoo.co.in 9817241400
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21.	Dr. Samarjit Sihotra	Department of Physics Panjab University, Chandigarh	ssihotra@pu.ac.in 9463576594
22.	Dr. Ajeet Sharma	IIT Jammu	ujcet.sharma@iitjammu.ac.in 8955338841

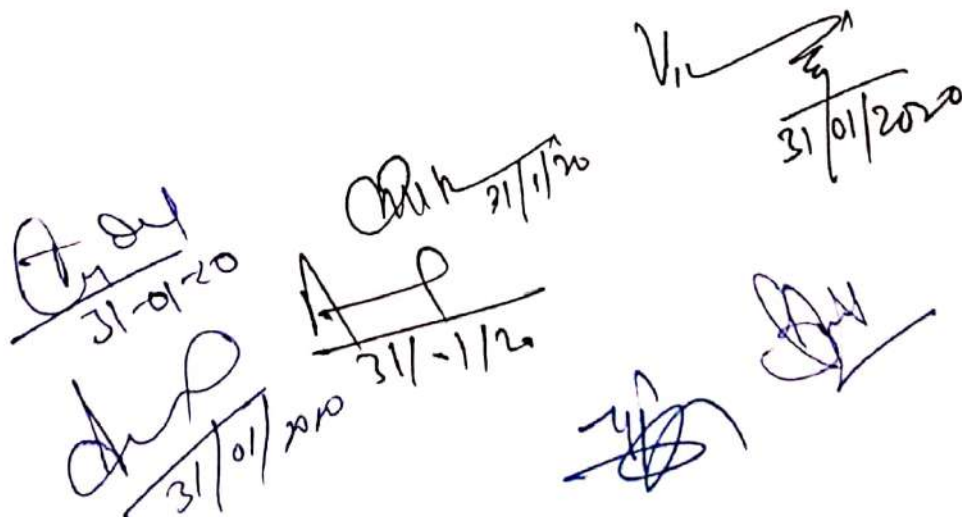
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23.	Dr. Vivek K Singh	Department of Physics, Shri Mata Vaishno Devi University, Karta, J&K	9419115187 vivek.singh@smvdu.ac.in
24.	Prof. Vishal Sharma	Institute of Forensic Sc and Criminology, Panjab University, Chandigarh	vsharma@pu.ac.in 9317782111; 7889094265
25.	Dr. Ram Prakash	Department of Physics, Shri Mata Vaishno Devi University, Karta, Jammu	ramprakash@smvdu.ac.in 9419904015
26.	Prof. Navdeep Goyal	Department of Physics Panjab University Chandigarh 160014	Email: ngoyal@pu.ac.in Phone: +91 172 2534451
27.	Prof. Rajeev Kumar Puri	Department of Physics, Panjab University, Chandigarh,	drkpur@gmail.com Ph:91 172 2534468
28.	Dr. Amit Kumar	GCW, Gandhi Nagar, Jammu	akbcw2@gmail.com 8803747761
29.	Dr. Sandeep Arya	Department of Physics, University of Jammu	snp09arya@gmail.com 7889455309
30.	Dr. Naresh Sharma	GDCW, Kathua(J&K)	nareshbasotra@gmail.com 9419254522
31.	Dr. Rawan Kumar	GDC, Samba (J&K)	rawanphysics@gmail.com 9858689264
32.	Dr. Chetan Sharma,	GDC, R.S. Pura (J&K)	chetan24101985@gmail.com 9622397742
33.	Mr. Jasvinder Singh	GDC, Kathua (J&K)	jasvinderkah076@gmail.com 9796451155
34.	Dr. Arun Sharma	GDC, Billawar (J&K)	aruncool.gaur88@gmail.com 9419148949

The Head of the Department is authorized to add or delete any other reputed Examiner(s) if such a need arises in future.



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जम्मू केंद्रीय विश्वविद्यालय

Annexure - XII

Central University of Jammu

राया-सूचानी (बागला), जिला सांबा-181143 जम्मू (जम्मू एवं कश्मीर)

Rahya- Suchani (Bagla), District Samba-181143, Jammu (J &K)

Ph.No. 01923-2649658 and website: www.cujammu.ac.in

No. 4-5/CUJ/Reg/HRM/2020/106

05th March, 2020

NOTIFICATION No. 15 /2020

Sub: Course Scheme and Syllabus Notification of Ph.D. in Human Resource Management, Dept. of HRM & OB w.e.f. Academic Session 2019 - 20 – Reg.

It is hereby notified for the information of all concerned that on the recommendations of the Board of Studies, Department of HRM & OB and Dean, School of Business Studies, the Academic Council, has approved the **Course Scheme** and **Syllabus** of Ph.D. in Human Resource Management, Dept. of HRM & OB w.e.f. Academic Session 2019 – 20.

The approved Course Scheme and syllabus is as under:

Semester - I

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core Courses						
PHHRM1C001T	Research Methodology and Computer Applications	4	-	-	-	100
PHHRM1C002T	Industrial Relation & Labour Laws	4	-	-	-	100
PHHRM1C003T	Contemporary Issues in People Management	4	-	-	-	100
Elective Courses (Area of Research Interest) Any One						
PHHRM1E001T	Decision Making	4	-	-	-	100
PHHRM1E002T	Diversity Management					
PHHRM1E003T	HR in Composite Cultural Environment					
PHHRM1E004T	Cross Cultural Management					
PHHRM1E005T	Strategic Human Resource Management					
PHHRM1E006T	HR Analytics					
PHHRM1E007T	Sustainable Development and HRM					
PHHRM1E008T	Seminar on Thrust Area					
Total		16	-	-	-	400

[Signature]
Deputy Registrar

(Admin - HR)

Encl: Syllabus of Ph.D. in Human Resource Management

To:
Head, Department of HRM & OB

Copy to:
Controller of Examinations

**Syllabus for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1C001T

Credit: 04

Course Title: Research Methodology and Computer Applications **Contact Hrs/Week: 3 Hrs**

Duration of Examination: 3Hrs

Maximum Marks: 100

Objective

The Course has been designed to enhance the methodological understanding of research scholars and equip them on designing a sound research design for carrying out quality research.

Unit-I

Research: Definition and objectives, Types, Steps in Research Process, Errors in Research, Significance of HR Research, Concept-mapping for HR Research, Model Building in HR Research,

Unit-II Literature Survey

Literature review and Identification of Issues; Exploring the Electronic Databases: Locating and Evaluating Research Data; Collection and Compilation of Literature; Referencing: Styles, Using & Citing Sources; Research Gap; Objectives and Hypotheses formulation

Unit III Research Design

Research Design: Types: Exploratory, Conclusive: Causal and Descriptive: Longitudinal and Cross-Sectional, **Scaling Techniques:** Non-metric and Metric Measurement Scales, **Measurement:** Validity: Content Validity, Face Validity and Construct Validity; Reliability: Types, Factor Analysis: Exploratory and Confirmatory Factor Analysis

Questionnaire: Stages of Questionnaire Development, **Methods of Data Collection:** Primary and Secondary Data, Data collection through Questionnaire and Schedules

Unit-IV Computer Applications

Word processing; Formatting and Page Layout; Preparation and Use of Spread Sheet; Power point presentation, Computer Security,

Scholarly Writing and Report Preparation: Academic Writing, Structure and Contents of a Research Paper and Dissertation, Mechanics of Writing a Research Report; Ethics in Academic Writing and Plagiarism

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include practical implementation of different techniques

Reference Books and Suggested Readings

- Levin, R.I. and Rubin, D.S., Statistics for Management, ed.vii, 1998, Pearson.
- Naresh Malhotra, Marketing Research: An Applied Orientation, ed. vi, 2010, Pearson.
- Donald R. Cooper, Pamela S. Schindler, Business Research Methods, 8/e, 2006, Tata McGraw-Hill Co. Ltd.
- Zikmund, W. G. Business Research Methods, 7/e, 2012, Cengage Learning
- Field, A. Discovering Statistics Using SPSS, Third Edition, Sage Publication
- Electronic Resources: Databases, E-libraries, Online Journals etc.

**Syllabus for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1C002T

Course Title: Industrial Relation & Labour Laws

Duration of Examination: 3Hrs

Credit: 04

Contact Hrs/Week: 3 Hrs

Maximum Marks: 100

Objective

The objective of this course is to acquaint the research students with the essentials of Industrial Relations in relation to the social, economic and political trends in the society and regulatory labour environment.

Unit I: Introduction

Application of Dunlop's model of industrial relations; issues and problems of industrial relations in Indian Industry; Preventive measures: grievances procedure, code of discipline and standing orders; settlement measures: mediation, conciliation, arbitration and adjudication,

Industrial Relations in the New Economy: From disputes to relationships: Employee engagement and High Performance Work Cultures; industrial relations in the service economy; emerging issues and challenges of IR in the knowledge era; globalization and changing IR terrain, Competencies for Sustainable Industrial Relations, Employer and Employee Response to New Age Industrial Relations, Leveraging IR for Workplace Harmony & Growth

Unit II: Trade Unions and Collective Bargaining

Trade Unions: Trade unionism in India; trade union legislation; relevance of trade unions in the 21st century. Employee relations: Employment Relationship Philosophies, Collective Bargaining: tactics and strategies; process and collective bargaining model; collective bargaining in India, its effectiveness and relevance.

Unit III: Worker's Participation in Management

Forms, and levels and models of participation; WPM in India; various schemes in participation - works committees, joint management councils and work-director; Schemes introduced during emergency (1975); shop council; working and effectiveness of the schemes in India; payment of bonus, profit sharing and ESOPs;

Unit IV: Labour Legislations

Constitution of India vis-a-vis Labour Legislations, Fundamental Rights and Labour Laws (Articles of Constitution having direct relationship with labour laws), Right to Constitutional Remedies (Article 32); Directive Principles of State Policy

Some Specific Provisions under Various Laws: Industrial Disputes Act, 1947; Instruments of Economic Coercion, A comparison between Industrial Disputes Act, 1947 and essential services maintenance Act, 1982; provisions relating to health, safety, working conditions and welfare under Factories Act, 1948, Unorganised Social Security Act, 2008, Sexual Harassment of Women at workplace Act, 2013

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include latest researches conducted in the area beside case studies
- ❖ Teaching-Learning Process will involve input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- R.C. Saxena, Labour Problems and Social Welfare.
- B.P. Tyagi, Labour Economics and Social Welfare.
- Promod Verma, Management of Industrial Relations.
- A.M Sharma, Industrial Relations, Concept and Legal Framework.
- Verma and others, Trade Union in India.
- Arun Monappa, Industrial Relations.
- B.K. Tondon, Collective Bargaining and the Indian Scene.
- M.L. Monga, Industrial Relations and Labour Laws in India.
- Srivastava, S. C. Industrial Relations and Labour Laws, 6th /e, Vikas Publishing House Pvt. Ltd.
- Goswami, V. G., Labour and Industrial Relations Law, Central Law Agency, Allahabad
- Misra, S. N. Labour and Industrial Laws, Central Law Publication,
- Agarwal, S. L. Labour Relations Law in India, Mc Millan Company of India Ltd., New Delhi

**Syllabus for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1C003T

Course Title: Contemporary Issues in People Management

Duration of Examination: 3Hrs

Credit: 04

Contact Hrs/Week: 3 Hrs

Maximum Marks: 100

Unit I

Human Capital Management: Human Capital Measurement and reporting

Competency-based HRM: Types of competencies, Competency frameworks, application of competency based HRM, Behavioral competency modeling, **People Resourcing:** Talent Management: Strategic role of talent management, Next generation talent management, Managing Career Aspirations: Mentoring vis-à-vis career success, HR Scorecard

Unit II

HR Challenges: Sustaining High Performance Employees, Performance Management System (PMS), Performance Management Models, Designing the right rewards package, Skill Based Pay, Organizational Citizenship Behavior (OCB), Conflict management, Career Transitions-Mid life career issues, Emerging concept of Double Income Groups with no Kids (DINKS), Employee Engagement: Drivers, Outcomes of engagement, Theory of engagement, Smart HR Departments, Innovation through people, Workplace Bullying, Ethical HR Practices

Unit III

HR in Multi-Cultural Environment : Cross-cultural Management, Cultural Orientations and managerial implications; The cross-cultural puzzle of global human resource management, Cultural Shocks, Cultural Intelligence, Work behaviour across cultures; Coping with cultural differences, Cross-Cultural Diversity: Importance of valuing diversity; The challenge of work-force diversity; managing diversity in organizations, Cross Culture and Gender Issues, People Practices and Culture of Inclusivity and Growth

Cross-cultural communication and Motivation, communication break down across cultures, Motivational difference across cultures; Cross cultural transition; Expatriate employee; careers in international management.

Unit IV

Leadership: Assessing leadership talent during business transformation, Developing organizational leadership capabilities, Building a high-impact leadership organization, Top Management leadership and influence on innovation, Role of leadership in managing change.

Managing transitions: Stages, process, role of a leader in managing transition, People, Technology, Leadership and Future of Work, Leadership Pipeline, & Succession Planning, Leadership: Agility, Precision & Performance, New Models for Rewards, Liquid Workforce-Myth or Reality

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include latest researches conducted in the area beside case studies
- ❖ Teaching-Learning Process will involve input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- Armstrong, M. Armstrong's Essential Human Resource Management: A Guide to People Management, Kogan Page, 2010
- Armstrong, M. Armstrong's Handbook of Management and Leadership 3/e Kogan Page, 2012
- Andrews, T. G. and Mead, R. Cross-Cultural Management: Critical Perspectives on Business and Management. Volume III, Routledge Tylor & Francis Group.
- Encyclopedia of Human Resource Management: Thematic Essays, Volume 3, Rothwell, W. J. Pfeiffer A Wiley Imprint
- Berger, A. Berger, D. The Talent Management Handbook: Creating a Sustainable Competitive Advantage by Selecting, Developing, and Promoting the Best People. McGraw Hill
- Charan, R., Drotter, S., Noel, J. The Leadership Pipeline: How to Build the Leadership-Powered Company 2/e, John Wiley and Sons
- French & Bell., "Organizational Development", Prentice Hall of India, New Delhi.
- Hofstede, Geert, Culture's Consequences, Strategies' Sage, 1999
- Harris, Anthony W. and Myers, Salma G., Tools of valuing diversity, Wheeler Publishing, 1998
- Myers, Salma G. Team Building for Diverse Work Groups, Wheeler Publishing, 1998
- Mead, R., International Management : Cross Cultural dimensions, Oxford : Blackwell, 1994
- Ansari, K. H. and Jackson, J. Managing Cultural Diversity at work, New Delhi: Kogan.

**Syllabus for thrust area course for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1E001T
Course Title: Decision Making
Duration of Examination: 3Hrs

Contact Hrs/Week: 3 Hrs
Credit: 04
Maximum Marks: 100

Course Objective: The main objective of this course is to develop deep understanding of the processes involved in judgment and decision making. The idea is to further inculcate the acumen of research pertaining to the decision making among the scholars.

Unit I: Summary of the inductive judgment research before Tversky and Kahneman: Formal models of decision making. The Bounded Rationality approach: a first answer to the limitations of the decision making models

(Refer to readings page for unit I)

Unit II: The research program on Heuristics and biases initiated by Tversky and Kahneman: a new approach to judgment under uncertainty. Judgmental Heuristics: structure and function; recent developments of the Heuristics and biases research program

(Refer to readings page for unit II)

Unit III: Human statistical intuition versus heuristic judgment: Conditions of incidence of one and the other. On The illusion of some heuristics; Simple and smart heuristic; Individual differences in judgment under uncertainty

(Refer to readings page for unit III)

Unit IV: Computational models: for an integrated explanation of heuristic judgment. Dual process approaches of judgment under uncertainty: integrating heuristics with rule-based judgment under uncertainty.

(Refer to readings page for unit IV)

Unit V: Implications and applications of judgment and decision making research.

(Refer to readings page for unit V)

UNIT WISE READINGS

Unit I	<ol style="list-style-type: none"> 1) Peterson, C. R., & Beach, L. R. (1967). Man as an intuitive statistician. <i>Psychological Bulletin</i>, 68, 29-46. 2) Edwards, W. (1982). Conservatism in human information processing. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), <i>Judgment under uncertainty: Heuristics and biases</i> (p. 359-369). Cambridge: Cambridge University Press. (Excerpts from a chapter in B. Kleinmuntz (Ed.), <i>Formal representation of human judgment</i> (p. 17-52), 1968. New York: Wiley.)
Unit II	<ol style="list-style-type: none"> 1) Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. <i>Science</i>, 185, 1124-1131 2) Kahneman, D., & Tversky, A. (1973). On the psychology of prediction. <i>Psychological Review</i>, 80, 237-251.
Unit III	<ol style="list-style-type: none"> 1) Nisbett, R. E., Krantz, D. H. Jepson, S. D., & Kunda, Z. (1983) The use of statistical heuristics in everyday reasoning. <i>Psychological Review</i>, 90, 339-363. 2) Ferreira, M. B., & Garcia-Marques, L. (2003). O papel do reconhecimento do acaso no raciocínio indutivo. The role of perception of randomness on inductive reasoning. <i>Análise Psicológica</i>, 3, 353-374.
Unit IV	<ol style="list-style-type: none"> 1) Dougherty, M. R. P., Gettys, C. F., & Ogden, E. E. (1999). MINERVA-DM: A memory processes model for judgments of likelihood. <i>Psychological Review</i>, 106, 180-209 2) Ferreira, M. B., Garcia-Marques, L., Sherman, S. J., & Sherman, J. (2006). A dual-process approach to judgment under uncertainty. <i>Journal of Personality and Social Psychology</i>, 91, 797-813.
Unit V	<ol style="list-style-type: none"> 1) Pidgeon, N.F. and Gregory, R. (2004) Judgment, decision making and public policy. In D. Koehler and N. Harvey (eds.) <i>Blackwell Handbook of Judgment and Decision Making</i> (pp. 604-623). Oxford, UK: Blackwell Publishing. 2) Ariely, D., Norton. M. I. (2011). From thinking too little to thinking too much: a continuum of decision making. <i>Interdisciplinary Reviews: Cognitive Science</i>, 2, 39-4

**Syllabus for thrust area course for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1E002T

Course Title: Diversity Management

Duration of Examination: 3Hrs

Contact Hrs/Week: 3 Hrs

Credit: 04

Maximum Marks: 100

Course Objective: To acquaint the scholar with global aspect of human asset management, various challenges and opportunities in cross cultural organization.

Unit I

Introduction to cross cultural management dimensions of culture, communication across culture, challenges of cross cultural Management, Globalization

Unit II

Negotiation across cultures, Negotiation framework, Negotiation styles in different countries, Negotiation process, Interpretation, Translation and Mediation

Unit III

Culture Influence on Motivation, Content theories of motivation and process theories of motivation .Cultivating a Global mindset, developing cross cultural skills

Unit IV

Leadership and global relevance. Leadership theories in other cultures .Leadership style in Europe, South East Asia and in middle east .HRM in globalizing world.

Unit V

Expatriate Management issues, Selection of expatriate, cross cultural training, ethics framework, ethical binding for global managers

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching-learning Process will input from those who have demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested reading

- Mead R, "International Management cross cultural dimensions"
- Cross cultural Marketing, Robert Rugimbana&Sonny Nwankwo , Thomas Asia Pte. Ltd Singapore
- Alder N J, International Dimensions of Organizational Behavior , Kent Publishing

**Syllabus for thrust area course for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1E003T

Contact Hrs/Week: 3 Hrs

Course Title: HR in Composite Cultural Environment

Credit: 04

Duration of Examination: 3Hrs

Maximum Marks: 100

Objective

To expose the scholar to the international dimension of people's behaviour in organizations and to develop a diagnostic and conceptual understanding of the cultural and related behavioural variables in the management of global organizations.

Unit I

Cross-cultural Management: The meaning and concept; cultural orientations; cross-cultural differences and managerial implications; The cross-cultural theories .Culture and Global strategy formulation.

Unit II

Work behaviour across cultures; National cultures; National culture and organizational culture; Hofstede's cultural / value dimensions; coping with cultural differences; Understanding socialization; Implications of organizational cultures for international management.

Unit III

Cultural Diversity: Meaning and nature; the importance of valuing diversity; The challenge of work-force diversity; Managing work-force diversity as competitive advantage; the impact of diversity on groups / teams; Types of diversity in groups; A model for a high performance diverse teams; managing diversity in organizations : success model, strategies and guidelines; Developing a multi-cultural organization.

Unit IV

Managing people in the international context: India, China; Cross – cultural communication: communication misperception, communication misevaluation, communication misinterpretation, communication break down across cultures. Cross cultural partnership. European, Japanese and US leadership approaches; Leadership approaches in developing countries; Factors contributing to effective leadership across cultures.

Unit V

Cross cultural motivation: Are motivation theories universally applicable across cultures? Motivational difference across cultures; Negotiating internationally; Cross-cultural perspective. Negotiation process, qualities of a good negotiator. Cross cultural transition; Expatriate employee; cross-culture entry, home country re-entry; careers in international management.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings:

- ❖ Alder, Nancy J 'International Dimensions of Organizational Behaviour, PNS – Kent 1991
- ❖ Peter, J. Bowling, Denjee H. Hule and Nandall S. Shuler, International Human Resource Management – Managing People in Multinational context, South College Publication, 1999
- ❖ Hofstede, Geert, Culture's Consequences, Strategies' Sage, 1999
- ❖ Pucik Vladinia, Noel M. Tichy and Carole K. Barnett (eds.) – Globalising Management, John Wiley, 1992
- ❖ Hodgeits, Richard M. and Fred Luthans, International Management, McGraw Hill, 1994
- ❖ Luthans, Fred, Organizational Behaviour, McGraw Hill, 1995
- ❖ Harris, Anthony W. and Myers, Salma G., Tools of valuing diversity, Wheeler Publishing, 1998
- ❖ Myers, Salma G. Team Building for Diverse Work Groups, Wheeler Publishing, 1998
- ❖ Kluchkhohn and Strodtbek, Variations in value orientation, New York: Row Peterson, 1961
- ❖ Mead, R., International Management : Cross Cultural dimensions, Oxford : Blackwell, 1994
- ❖ Ansari, K. H. and Jackson, J. Managing Cultural Diversity at work, New Delhi: Kogan.

**Syllabus for thrust area course for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1E005T
Course Title: Strategic Human Resource Management
Duration of Examination: 3Hrs

Contact Hrs/Week: 3 Hrs
Credit: 04
Maximum Marks: 100

Objective

To acquaint the scholars with the basic understanding about concepts, HR strategic processes in an organization, frameworks and strategic issues in People Management

UNIT I

Strategic Intent and Vision, Mission and Objectives, Nature and Scope of Strategic Management, Process of Strategic Planning and Implementation, Strategic Human Resource Management: Concept, Need, Process, Aims, Approaches, The 5P Model of SHRM, Criteria for Sustainable Competitive Advantage and Limitations of SHRM.

UNIT II

Global Human Resource Environment, Strategy Formulation: Corporate Level Strategy, Business Level Strategy, Functional Level Strategy, Characteristics of HR Strategy, Process of Strategic Formulation, Formulation of HR strategy.

Strategy Implementation: Aspects and Issues in Strategy Implementation, Roles in Strategic HRM- Role of Top Management, Role of HR Director, HR Specialist and Role of Front-line management.

UNIT III

HR strategies: Functional HR strategies- Resourcing Strategy, Learning and Development Strategy, Reward Strategy, Employee Relations Strategy and Performance Management Strategy, Building Competitive Advantage through HR Strategy.

Organization HR Strategies- Strategies for Organizational Development, Cultural Management Strategies, Change Management Strategies, HR Strategies in Globalization, HR Process Restructuring: Virtual Organizations

UNIT IV

Sustainable Development: Goals, Vision for future Sustainable Development and HR, Green HRM

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings:

- ❖ Michael Armstrong, "Strategic Human Resource Management", Kogan Page India Pvt. Ltd.
- ❖ Charles R. Greer., "Strategic Human Resource Management", Pearson Education Asia, Delhi, 2001
- ❖ Azhar Kazmi, Business Policy; Tata Mc Graw Hill Publishing Co. Ltd. New Delhi
- ❖ P.K. Ghosh: Strategic Planning and Management- Sultan Chand & Sons; New Delhi

- ❖ Goswami and Sitlani, Strategic Human Resource Management, RBD Publication, Jaipur
- ❖ Thompson & Strickland: Strategic Management- Concepts and Cases; Tata Mc Graw Hill Publishing Co. Ltd. New Delhi; 12th Ed. 2001
- ❖ Ramaswamy and Namakumari: Strategic Planning- Formulation of Corporate strategy: Mc Milaan India Ltd. New delhi

**Syllabus for thrust area course for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1E004T
Course Title: Cross Cultural Management
Duration of Examination: 3Hrs

Contact Hrs/Week: 3 Hrs
Credit: 04
Maximum Marks: 100

Objective

To expose the scholar to the international dimension of people's behaviour in organizations and to develop a diagnostic and conceptual understanding of the cultural and related behavioural variables in the management of global organizations.

Unit I

Cross-cultural Management: The meaning and concept; cultural orientations; cross-cultural differences and managerial implications; The cross-cultural theories .Culture and Global strategy formulation.

Unit II

Work behaviour across cultures; National cultures; National culture and organizational culture; Hofstede's cultural / value dimensions; coping with cultural differences; Understanding socialization; Implications of organizational cultures for international management.

Unit III

Cultural Diversity: Meaning and nature; the importance of valuing diversity; The challenge of work-force diversity; Managing work-force diversity as competitive advantage; the impact of diversity on groups / teams; Types of diversity in groups; A model for a high performance diverse teams; managing diversity in organizations : success model, strategies and guidelines; Developing a multi-cultural organization.

Unit IV

Managing people in the international context: India, China; Cross – cultural communication: communication misperception, communication misevaluation, communication misinterpretation, communication break down across cultures. Cross cultural partnership. European, Japanese and US leadership approaches; Leadership approaches in developing countries; Factors contributing to effective leadership across cultures.

Cross cultural motivation: Are motivation theories universally applicable across cultures? Motivational difference across cultures; Negotiating internationally; Cross-cultural perspective. Negotiation process, qualities of a good negotiator. Cross cultural transition; Expatriate employee; cross-culture entry, home country re-entry; careers in international management.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings:

- ❖ Alder, Nancy J 'International Dimensions of Organizational Behaviour, PNS – Kent 1991

- ❖ Peter, J. Bowling, Denjee H. Hule and Nandall S. Shuler, International Human Resource Management – Managing People in Multinational context, South College Publication, 1999
- ❖ Hofstede, Geert, Culture's Consequences, Strategies' Sage, 1999
- ❖ PucikVladinia, Noel M. Tichy and Carole K. Barnett (eds.) – Globalising Management, John Wiley, 1992
- ❖ Hodgeits, Richard M. and Fred Luthans, International Management, McGraw Hill, 1994
- ❖ Luthans, Fred, Organizational Behaviour, McGraw Hill, 1995
- ❖ Harris, Anthony W. and Myers, Salma G., Tools of valuing diversity, Wheeler Publishing, 1998
- ❖ Myers, Salma G. Team Building for Diverse Work Groups, Wheeler Publishing, 1998
- ❖ Kluchkhohn and Strodtbek, Variations in value orientation, New York: Row Peterson, 1961
- ❖ Mead, R., International Management : Cross Cultural dimensions, Oxford : Blackwell, 1994
- ❖ Ansari, K. H. and Jackson, J. Managing Cultural Diversity at work, New Delhi: Kogan.

**Syllabus for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course Code: PHHRM1E008T
Course Title: Seminar on Thrust Area
Duration of Examination: 3Hrs

Credit: 04
Contact Hrs/Week: 3 Hrs
Maximum Marks: 100

Content:

Course Objective:	The scholar shall work on his /her thrust area in consultation with his/ her supervisor based on area of research interest for understanding the research gap.
Course Content:	At the end of course work, scholar will have to make a presentation on his/her thrust area in consultation with his supervisor. The guidelines and detailed instructions to complete this course will be given by the Supervisor allocated by the Head of Department. The performance of the students shall be evaluated on the basis of the feedback given by the supervising faculty member, report(s) submitted, presentation made by scholar on the study area, attendance etc before Departmental Research Committee (DRC).
Evaluation:	This report to be evaluated by DRC as per the distribution of marks given below. Distribution of Marks: Thrust Area Presentation: 50 Thrust Area Report Evaluation: 50 Total: 100

**Syllabus for thrust area course for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course No.

Course Title: HR Analytics

Duration of Examination: 3Hrs

Contact Hrs/Week: 3 Hrs

Credit: 04

Maximum Marks: 100

Objective

The objective of this course is to acquaint the students with the concepts, tools, methods, approaches and techniques of HR analytics and its application in various HR sub-systems

Unit-I HR Measurement

Need for HR Measurement, Significance and concept of HR Analytics, HR Analytics and business linkages, Prerequisites of HR Analytics; Models and frameworks of HR Analytics; Measuring intellectual capital, need and rationale for HR Accounting & Audit, Approaches and methods of HR Accounting & Audit.

Unit-II HRIS for HR Analytics

Human Resource Information System; Role of HRIS in analytics; HRIS development and Implementation, The development process- need analysis, systems design, structure and culture; HRIS Applications- Making HRIS work.

Unit-III Analytics for HR systems & sub-systems

HR Analytics for Staffing, Training & Development, Performance Management Systems, Career Planning Systems, Rewards and Compensation Management, Employee Relations Systems. HR performance frameworks and measurement systems; Measuring HR Climate and People Management Capabilities; Competency Management Frameworks & Competency Mapping, Integration of competency-based HR System. Measuring HR Effectiveness, The HR Scorecard

Unit IV Trends and Future Challenges

Technology and changes in HR Analytics, Role of Social Media, Big Data and Predictive Analytics in HR, Assessing the effectiveness of HR Analytics, Post analysis steps, Review and monitoring, Issues in HR valuation and measurement; Emerging challenges: Global and Indian Experience.

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings:

- ❖ Ulrich, D. & Brockbank, W. (2010). *The HR Value Proposition*. Harvard Business School Press.
- ❖ Fitz-enz, J. (2013). *How to measure HRM*. McGraw-Hill.
- ❖ Fitz-enz, J., & Mattox, J. (2014). *Predictive Analytics for Human Resources*. Wiley.
- ❖ Phillips, J., & Phillips, P.P. (2014). *Making Human Capital Analytics Work: Measuring the ROI of Human Capital Processes and Outcomes*. McGraw-Hill
- ❖ Director, S. (2014). *Financial Analysis for HR Managers: Tools for Linking HR Strategy to Business Strategy*. Pearson FT Press
- ❖ Becker, B. E., Huselid, M. A., & Ulrich, D. (2001). *The HR scorecard: Linking people, strategy, and performance*. Harvard Business Press

Nalini

Shankar

[Signature]

**Syllabus for thrust area course for PhD Programme in Human Resource Management
For the academic year 2019-20**

Course No.
Course Title: Sustainable Development and HRM
Duration of Examination: 3Hrs

Contact Hrs/Week: 3 Hrs
Credit: 04
Maximum Marks: 100

Objective

The objective of this course is to provide an in-depth understanding of conceptual framework and evaluations of the research studies conducted in the area of sustainable development vis-a-vis HRM and facilitate the learner in literature synthesis on the subject

Unit I

Indian and Global scenario of environmental degradation and resource depletion
Sustainable Development (SD): Concept, Policies, Practices, Social & Economic Dimensions, Indicators of sustainability, Triple bottom line sustainability, Resource based view of sustainability, Modals of sustainable Development-Three Spheres Model of sustainability and Four spheres Model of sustainability, ROC model.

Unit II

Integrating sustainability with HRM: Sustainable HRM, Roadmap for sustainable HRM, Organizational readiness for sustainability, GRI framework and HRM related indicators, Sustainability reporting by Business Organisations
Green initiatives and HR Practices: Green analysis and job description, Green recruitment, Green selection, Green training, Green performance assessment, Green rewards. Influence of green HRM practices and Organisational sustainability

Unit III

Meta-Analysis of Literature review on Sustainability and Green HRM

Unit IV

Seminar on Sustainability and Green HRM

Note:

- ❖ Teaching Pedagogy besides classroom teaching will essentially include simulation, case studies, role plays and games.
- ❖ Teaching- Learning Process will involve input from those who demonstrated excellence in the area i.e. Practitioner's view will be incorporated.

Reference Books and Suggested Readings

- ❖ Douglas W.S. Renwick's Contemporary Developments in green Human resources management Research: Towards sustainability in Action?
- ❖ Armstrong, M. Armstrong's Essential Human Resource Management: A Guide to People Management, Kogan Page, 2010
- ❖ Berger, A. Berger, D. The Talent Management Handbook: Creating a Sustainable
- ❖ Competitive Advantage by Selecting, Developing, and Promoting the Best People. McGraw Hill





- ❖ Benard Langat's Green Human resource management and Environment sustainability. Scholar's Press
- ❖ Ina Ehnert's Sustainable Human Resource Management: A Conceptual and Exploratory Analysis from a Paradox Perspective
- ❖ Sugumar Mariappanadar's Sustainable HRM: Strategies, practices and challenges

Sugumar
Younis
Mukherjee



जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया-सूचानी, बागला, जिला सांबा-181143 जम्मू, जम्मू एवं कश्मीर
Rahya- Suchani (Bagla), District Samba - 181143, Jammu (J&K)

No. 4-1/EVS/CUJ/Reg/2020/53

11 February, 2020

NOTIFICATION No. 11 / 2020

Sub: Course Matrix and Syllabus Notification of **Ph.D. in Environmental Sciences** w.e.f. Academic Session 2019-20 – Reg.

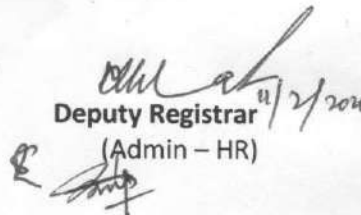
It is hereby notified for the information of all concerned that on the recommendation of the Board of Studies, Department of Environmental Sciences and School Board, School of Life Sciences, the Academic Council has approved following **Course Scheme** and **Syllabus** of Ph.D. in Environmental Sciences w.e.f. Academic Session **2019-20**.

Course Code	Course Title	Credit	ESE	Max. Marks
Compulsory Course				
PHEVS1C001T	Research Methodology	4	100	100
PHEVS1C002T	Advanced tools and techniques in Environmental Sciences	4	100	100
PHEVS1C003T	Current Environmental Issues and Challenges	4	100	100
Specialized Courses (Any One)				
PHEVS1E001T	Advanced Atmospheric Chemistry	4	100	100
PHEVS1E002T	Advances in Microbiology & Bioprocesses			
PHEVS1E003T	Advances in Geochemistry			
PHEVS1E004T	Atmospheric Processes & Climate Change			
PHEVS1E005T	Bioenergy and Nanomaterials			
Total		16	-	400

Encl: Syllabus of Ph.D.

To: Head, Department of Environmental Sciences

Copy to: OSD (Exam)


Deputy Registrar
(Admin - HR)

CENTRAL UNIVERSITY OF JAMMU
Syllabus for PhD in Environmental Sciences

Semester-I

Academic Year 2019-20

Subject course Code: PHEVS1C001T

Subject Course Title: Research Methodology

Duration of examination: 3 Hours

Credits:4

Maximum Marks: 100

Contact Hours/Week: 4

UNIT-I

Meaning, objectives, types and significance of Research; Research approaches, Research methods; Overview of Moral and Ethical questions in Scientific writing; Introduction to Intellectual Property Rights (IPR); Defining uncertainty of measurements, validation of method, calibration of method; QA/QC parameters in environmental sciences, use of CRMs, Inter-laboratory comparison exercise, participation in National and International round Robin tests; Citation analysis.

UNIT-II

Probability distribution and their properties, Normal, Poisson and Binomial distribution, sampling and test of significance, parametric and non-parametric test, correlation and regression, Error analysis.

UNIT-III

Introduction to philosophy: definition, nature and scope, concept, branches; Ethics: definition, moral philosophy, nature of moral judgements and reactions.

UNIT-IV

Ethics with respect to science and research; Intellectual honesty and research integrity; Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP); Redundant publications: duplicate and overlapping publications, salami slicing; Selective reporting and misrepresentation of data.

UNIT-V

Publication ethics: definition, introduction and importance; Best practices/ standards setting initiatives and guidelines: COPE, WAME etc.; Conflicts of interest; Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types; Violation of publication ethics, authorship and contributorship; Identification of publication misconduct, complaints and appeals; Predatory publishers and journals.

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Suggested Readings

1. Principles of biometry by Charles M. Wolf
2. An Introduction to Geographical Information Systems, by Ian Heywood
3. Text book of quantitative chemical analysis by Vogel, I & Mendham, J. Vogel's
4. Practical Handbook of spectroscopy by James W. Robinson
5. Introduction to computers by P.K.Sinha
6. Quantifying Uncertainty in Analytical Measurement by Ellison and William
7. The Fitness for purpose of Analytical methods by Eurachem Guid

CENTRAL UNIVERSITY OF JAMMU
Syllabus for PhD in Environmental Sciences

Semester-I

Academic Year 2019-20

Subject course Code: PHEVS1C00.3.T

Subject Course Title: Current Environmental Issues and Challenges

Duration of examination: 3 Hours

Maximum Marks: 100

Credits:4

Contact Hours/Week: 4

UNIT I

Global Environmental Issues: Biodiversity loss, Climate change, Ozone layer depletion, Sea level rise, International efforts for environmental protection, Carbon sequestration and carbon credits.

UNIT II

National Action Plan on Climate Change: Eight National missions – National Solar Mission, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, National Water Mission, National Mission for Sustaining the Himalayan Ecosystem, National Mission for a 'Green India', National Mission for Sustainable Agriculture, National Mission on Strategic Knowledge for Climate Change; Waste Management – Swachha Bharat Abhiyan; Green Building, GRIHA Rating Norms.

UNIT III

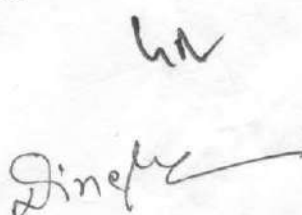
Environmental Conventions and Agreements: Stockholm Conference on Human Environment 1972, Montreal Protocol, 1987, Conference of Parties (COPs), Basel Convention (1989, 1992), Ramsar Convention on Wetlands (1971), Earth Summit at Rio de Janeiro, 1992, Agenda-21, Global Environmental Facility (GEF), Convention on Biodiversity (1992), UNFCCC, Kyoto Protocol, 1997, Clean Development Mechanism (CDM), Earth Summit at Johannesburg, 2002, RIO+20, UN Summit on Millennium Development Goals, 2000, Copenhagen Summit, 2009. IPCC, UNEP, IGBP.

UNIT IV

Environmental Disasters: Minamata Disaster, Love Canal Disaster, Bhopal Gas Disaster, 1984, Chernobyl Disaster, 1986, Fukushima Daiichi nuclear disaster, 2011; Australian Bush fire (2019)

UNIT V

Environmental policies and Laws (Indian): National Environment Policy, 2006; National Action Plan on Climate Change, 2008; National Green Tribunal Act, 2010; Environment Protection Act, 1986; The Water (Prevention and Control of Pollution) Act, 1974; The Air (Prevention and Control of Pollution) Act, 1981; Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008; Vehicular emission norms in India.



Suggested Readings:

1. Sharma, P. D., and P. D. Sharma. Ecology and environment. Rastogi Publications, 2012.
2. De, A. K. "Environmental chemistry 7th edn." New Age International Publications, New Delhi (2010)
3. Garg, V.K., Bishnoi, M.S., and Malik, C.P. Environmental Policies and Laws. Kalyani Publishers, 2002
4. Leelakrishnan, P. Environmental law in India. LexisNexis, 2016.
5. Sharma, B. K., and H. Kaur. "Environmental Chemistry, Meerut." India, Krishna Prakashan (1994).
6. Singh, S., Allen, T., Tyagi, R.K. Basic Environmental Sciences for Under Graduates. Vayu Education

CENTRAL UNIVERSITY OF JAMMU
Syllabus for PhD in Environmental Sciences

Semester-I

Academic Year 2019-20

Subject course Code: PHEVS1C002.T

Subject Course Title: Advanced tools and techniques in Environmental Sciences

Duration of examination: 3 Hours

Maximum Marks: 100

Credits:4

Contact Hours/Week: 4

UNIT I:

Standard protocol for sampling of air, water and soil for chemical analysis; Gravimetric analysis and Volumetric analysis; Principle, structure and working of pH meter; Conductivity meter; Nephelometer; Bomb calorimeter; Sound level meter; thermal gravimetric analysis (TGA)

UNIT II:

Basics of chromatography; Paper chromatography, thin layer chromatography and column chromatography; Gas chromatography (GC), Gas chromatography-mass spectrometry (GC-MS); High Pressure Liquid Chromatography (HPLC); Ion chromatography

UNIT III:

Basics of spectrometry; UV-Visible spectrophotometer, Flame photometer, Atomic absorption spectroscopy (AAS); Inductively coupled plasma atomic emission spectroscopy (ICP-AES); Inductively coupled plasma mass spectrometry (ICP-MS)

UNIT IV:

Basics of microscopy; Phase contrast, Fluorescent and Electron microscopy; Scanning electron microscope (SEM); Transmission electron microscope (TEM); X-ray florescence (XRF); X-ray diffraction (XRD); Nuclear magnetic resonance spectroscopy (NMR); Fourier transform infrared (FTIR); Eletrophoresis

UNIT V:

Earth approximation and coordinate system, data types and management in geospatial techniques, GPS functioning to estimate the position, Digitization, editing and map preparation in GIS platform, Sensor and data processing in remote sensing, Spectral signature, Image enhancement, Vegetation type and hazard zone mapping using remote sensing technique

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Suggested Readings

1. An Introduction to Geographical Information Systems, by Ian Heywood
2. Text book of quantitative chemical analysis by Vogel, I & Mendham, J. Vogel's
3. Practical Handbook of spectroscopy by James W. Robinson
4. Quantifying Uncertainty in Analytical Measurement by Ellison and William
5. The Fitness for purpose of Analytical methods by Eurachem Guid

CENTRAL UNIVERSITY OF JAMMU

Syllabus for PhD in Environmental Sciences

Semester-I

Academic Year- 2019-20

Subject course Code: PHEVS1E001T

Subject Course Title: Advanced Atmospheric Chemistry

Duration of examination: 3 Hours

Maximum Marks: 100

Credits: 4

Contact Hours/Week: 4

UNIT-I:

The Layers of the Atmosphere and their chemical composition, Expressing the amount of a Substance in the Atmosphere, Variation of Pressure and Temperature with Height in the Atmosphere, Energy Balance for Earth and Atmosphere, Beer-Lambert Law and the concept of Optical Depth.

UNIT-II:

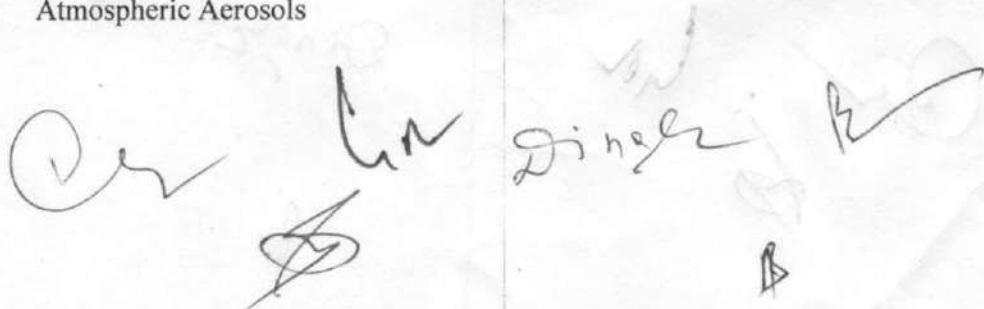
Chemistry of Nitrogen in troposphere: Sources and chemistry of NO_x and NO_y , Chemistry of Sulphur in troposphere: Sources and chemistry of SO_x , Chemistry of Carbon in troposphere: Sources and chemistry of CO , CO_2 , CH_4 and Non-methane Hydro Carbons Chemistry of Oxygen in troposphere: ODD oxygen chemistry, formation of Ozone and OH^* radicals, Influence of Meteorology on the concentration of Atmospheric constituents

UNIT-III:

Physical Properties and Chemical Composition of Atmospheric Aerosols, Interaction of Light with Particles, Role of Atmospheric Aerosols in Global Climate Change

UNIT - IV:

Techniques for Sampling of Atmospheric Gases, Sampling of Atmospheric Aerosols, Real-Time Monitoring Techniques for Atmospheric Gases, Real-Time Monitoring Techniques for Atmospheric Aerosols

The bottom of the page contains several handwritten signatures and initials in black ink. From left to right, there is a circular signature, a signature that appears to be 'An', a signature that appears to be 'Dinger', and a signature that appears to be 'B'. There are also some smaller initials and marks scattered around these signatures.

UNIT - V:

Analytical techniques in atmospheric chemistry: Elemental (CHNSO) Analyzer, Thermo-Optical (TOR/TOT) Carbon Analyzer, Atomic Absorption Spectrophotometer (AAS), Inductively Coupled Plasma - Atomic Emission Spectrophotometer (ICP-AES), and Inductively Coupled Plasma – Mass Spectrometer (ICP-MS), Ion Chromatography System (ICS), Gas Chromatography System (GCS) and Gas Chromatography – Mass Spectrometer (GC-MS), X-Ray Diffractometer (XRD) and X-Ray Florescence Spectrometer (XRF)

Text Books:

1. Finlayson-Pitts, B.J., Pitts J.N., J., (2000): Chemistry of the upper and lower atmosphere-Theory experiments and applications. Academic Press, US.
2. Seinfeld, J.H., Pandis, S.N., (2006): Atmospheric Chemistry and Physics: From Air Pollution to Climate Change, Atmospheric Chemistry and Physics.
3. Wallace John M. Jr., Peter V. Hobbs (2006): Atmospheric Science: An Introductory Survey, 2nd Edition, Academic Press, ISBN: 978-0127329512
4. Frederick K. Lutgens, Edward J. Tarbuck (2010): The Atmosphere: An Introduction To Meteorology, Phi (Prentice-hall New Arrivals), ISBN: 978-8120344150
5. Gilbert, M. Masters & Ela, W. P. (2007): Introduction to Environmental Engineering and Science. PHI learning Pvt Ltd.
6. Standard Methods for Examination of Water and Waste Water. APHA, AWWA, WEF, 21 Ed, 2005
7. Vogel, I & Mendham, J. (2000): Vogel's Text book of quantitative chemical analysis. Prentice Hall Publication.

CENTRAL UNIVERSITY OF JAMMU

Syllabus for PhD in Environmental Sciences

Semester-I

Academic Year 2019-20

Subject course Code: PHEVS1EQ.02T

Subject Course Title: Advances in Microbiology and Bioprocesses

Duration of examination: 3 Hours

Maximum Marks: 100

Credits: 4

Contact Hours/Week: 4

Unit- 1

Historical overview of microbiology, Industrially important microorganisms, Isolation, purification and preservation of microbes techniques; Cell culture techniques- aseptic transfer; Methods of determining microbial growth; factors affecting microbial growth; types of microbial growth.

Unit-II

Fermentation equipment's and its uses, Fermenter designs, Aerobic and anaerobic fermentation, Types of fermentation: batch, continuous, submerged, solid state, Consolidated bioprocessing.

Unit-III

Landfill classification, design and operation of sanitary landfills, Landfill bioreactors, Methane mitigation: biofiltration and biotarp, Biosorption; microbial biosorption; mechanism of biosorption and bioaccumulation, Case studies related to bioremediation.

Unit-IV

Environmental clean-up technologies, Biodegradation: Factors affecting on process of biodegradation, Microbial degradation of naturally occurring compounds- cellulose, lignin,

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Dinger *B*

hydrocarbons, Biodegradation of oil and petroleum products, Biodegradation of agricultural chemicals.

Unit-V

Microbes in ethanol production from biomass, Microbes in biogas production, Microbes in reclamation of polluted sites, Microbes in human welfare, Vermi-composting.

Reference Books:

1. Prescott, L. M., Harley, 3. P., and Klein, D. A., Microbiology, 2nd Edition, Wm. C. Brown Publishers, Dubuque, Iowa, 1993
2. Purohit, S.S., Microbiology- Fundamentals and Applications, 7th Edition, Agrobios (Inida) Publisher, 2017
3. Stanbury, P.F., Whitaker, A., Hall, S.J. Principles of Fermentation Technology, 3rd Edition, 2016
4. Martin Alexander. Biodegradation and Bioremediation. Academic Press; 2nd edition (April 15, 1999)
5. Das, S., Microbial Biodegradation and Bioremediation. Elsevier press, 1st edition, 2014

CENTRAL UNIVERSITY OF JAMMU
Syllabus for PhD in Environmental Sciences

Semester-I

Academic Year 2019-20

Subject course Code: PHEVS1E003T

Subject Course Title: Advances in Geochemistry

Duration of examination: 3 Hours

Credits: 4

Maximum Marks: 100

Contact Hours/Week: 4

Unit I:

Primary differentiation of the earth and the formation of crust, mantle and core. Weathering and soil formation, Sea water; Components of marine sediments, Isotope Geochemistry: stable Isotopes, Radioactive isotopes; Physical properties of sediments, Oxygen and Redox chemistry, Distribution of element as provenance Indicator.

Unit II:

Porewater alkalinity Titration, Chemistry of natural waters, physical chemistry of dissolved materials in water, Eh, pH and stability diagram, Transport processes; sediment diagenesis, sediment organic geochemistry, processes at the sediment water interface, Grain size Analysis, Organic matter as provenance indicator.

Unit III:

Geochemical classification of elements; abundance of elements in the bulk earth, crust, hydrosphere, atmosphere and biosphere; Biogeochemical processes in sediments, Carbon and nutrient remineralization, Geochemical indicators of Environment change, Global cycles of Carbon and Sulfur, sedimentation, effects of modern agriculture on sediment and soil geochemistry

Unit IV:

Modern Analytical Methods in Geoscience; Bulk (Non-Position Sensitive) methods: Classical Wet Chemical Methods, AAS, AES, XRFA, MS. Beam(Position-Sensitive) Methods; SIMS, LA-ICP-AES, LA-ICP-MS, EPMA.

Unit V:

Sampling and Geochemical sample preparation. ACNK and ACNKFM Diagrams, Interpretation of XRD, XRF, ICP-OES, ICP-MS and IC data for Environmental components (Rock, Sediment and Water); Health aspects of sediment geochemistry in modern environment,






Suggested Readings:

1. Potts, P.J. A Handbook of Silicate Rock Analysis, Blackie, London, 1987.
2. Thompson, M. and Walsh, J.N. A Handbook of Inductively Coupled Plasma Spectrometry, Blackie, London, 1983.
3. Van Loon, J.C. Analytical Atomic Absorption Spectroscopy, Academic Press, London, 1980.

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- CENTRAL UNIVERSITY OF JAMMU
Department for PhD in Environmental Science
4. Jeffery, P.G. and Hutchinson, D. Chemical Methods of Rock Analysis, Pergamon Press, Oxford, 1981.
 5. Rollinson, H.R. Using Geochemical Data, Longman, New York, 1993
 6. William M. White, Geochemistry; Wiley-Blackwell
 7. Press and Siever, The Earth; W.H. Freeman
 8. Skinner & Porter, The Dynamic Earth; Wiley
 9. Mcsween, Richardson, Uhle, Geochemistry Pathways and Process; Columbia University Press.
 10. Ray C. Lindholm: A Practical Approach to Sedimentological Analysis

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CENTRAL UNIVERSITY OF JAMMU
Syllabus for PhD in Environmental Sciences

Semester-I

Academic Year 2019-20

Subject course Code: PHEVS1E004T

Subject Course Title: Atmospheric Processes and Climate Change

Duration of examination: 3 Hours

Maximum Marks: 100

Credits: 4

Contact Hours/Week: 4

Unit-I

Structure and composition of the atmosphere, Humidity Parameters, Virtual Temperature, Stable and Instable atmosphere, Entropy, Potential Temperature, Equivalent Potential Temperature, Thermodynamic Diagrams. Precipitation process.

Unit-II

Tropical Meteorology: Hadley cell, trade winds, trade wind inversion, tropical convection, equatorial trough, ITCZ, easterly waves, tropical weather events, quasi-biennial oscillation (QBO). Monsoon, Rossby Waves, Madden-Julian oscillation(MJO), Elnino and Southern Oscillation (ENSO).

Unit-III

Boundary layer evolution and properties, Taylor's hypothesis, Eddy transport of momentum, Heat and moisture, TKE Budget; Stability concepts-Richardson number, Obhukhov length, Ekman layer, Boundary-layer profiling.

Unit-IV

Atmospheric Radiation and scattering (Raleigh and Mie scattering), Absorption spectra of atmospheric gases, Aerosols: Sources and Sinks, Characterisation of Aerosols, Reynold's number, Direct and Indirect Radiative Effects of Aerosols, Aerosol Measurement Techniques, Satellite Remote Sensing of Aerosols, Aerosols and Regional Climate



Unit-V

Climate system, factors for climate change, factors across different time scales and their interaction, climate modelling, Global circulation Models (GCM), Basic concepts of numerical weather prediction, Global Dimming versus Global Warming, Potential social, economic and environmental consequences of climate change.

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Suggested Readings:

1. Monsoon Meteorology by C.P. Chang & T.N. Krishnmoorthy
2. Mesoscale Meteorological Modelling by Roger A. Pielke
3. Mesoscale Atmospheric Circulation by B.W. Atkinson
4. Atmospheric Turbulence by Panofsky and J.A. Dutton.
5. Introduction to Boundary Layer Meteorology" Stull
6. The Atmospheric Boundary Layer by R.M. Stewart, WMO-523
7. Climate Change: The Science of Global Warming and Our Energy Future by Edmond Mathez
8. Tropical Meteorology Volume I & II by G.C. Asnani
9. Synoptic Meteorology by M.Kurz

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References:

- [1] Municipal Solid Waste to Energy Conversion Processes: Economic, Technical, and Renewable Comparisons, by Gary C. Young, ISBN:9780470539675, Publisher: John Wiley & Sons, Publication Date: June 2010.
- [2] Recovering Energy from Waste Various Aspects Editors: Velma I. Grover and Vaneeta Grover, ISBN 978-1- 57808-200-1; 2002
- [3] Shah, Kanti L., Basics of Solid & Hazardous Waste Management Technology, Prentice Hall, 2000.
- [4] Rich, Gerald et.al., Hazardous Waste Management Technology, Podvan Publishers, 1987.
- [5] Waste-to-Energy by Marc J. Rogoff, DEC-1987, Elsevier, ISBN-13: 978-0-8155-1132-8, ISBN-10: 0-8155- 1132-9.
- [6] Parker, Colin, & Roberts, Energy from Waste - An Evaluation of Conversion Technologies, Elsevier Applied Science, London, 1985.
- [7] Manoj Datta, Waste Disposal in Engineered Landfills, Narosa Publishing House, 1997.
- [8] Bhide A. D., Sundaresan B. B., Solid Waste Management in Developing Countries, INSDOC, New Delhi, 1983.
- [9] Robert Green, From Waste to Energy, Cherry Lake Pub. ISBN: 1602795096, 2009.
- [10] G. Evans, Biowaste and Biological Waste Treatment, 2005 [11]. Biogas from waste and renewable resources, by Dieter D. And Angelika S. Wiley-Vch Publication 2010.
- [11]. Environmental Chemistry for a Sustainable World, Volume 1: Nanotechnology and Health Risk Editors: Lichtfouse, Schwarzbauer, Robert
- [12]. Advances in Nanotechnology and the Environment, Juyoung Kim, CRC Press, Taylor and Francis Group

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जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया-सूचानी (बागला), जिला सांबा-181143 जम्मू (जम्मू एवं कश्मीर)

Rahya- Suchani (Bagla), District Samba-181143, Jammu (J &K)

Ph.No. 01923-2649658 and website: www.cujammu.ac.in

No. 4-6/TTM/CUJ/Reg/2019/432(A)

17 December, 2019

NOTIFICATION No. 89/2019

Sub: Course Scheme and Syllabus Notification of Ph.D. in Department of Tourism and Travel Management w.e.f. Academic Session 2019 - 20 - Reg.

It is hereby notified for the information of all concerned that on the recommendations of the Board of Studies, Department of Tourism and Travel Management and Dean, School of Business Studies, the Vice Chancellor in anticipation of Academic Council has approved the **Course Scheme** and **Syllabus** of Ph.D. in Department of Tourism and Travel Management w.e.f. Academic Session 2019 - 20.

The approved Course Scheme and syllabus is as under:

Semester - I

Course Code	Course Title	Credit	CIA	MSE	ESE	Max. Marks
Core Courses						
PHTTM1C001T	Tourism Planning, Public Policy and Governance	4	-	-	-	100
PHTTM1C002T	Research Methodology and Computer Applications	4	-	-	-	100
PHTTM1C003T	Research Themes and Challenges in Tourism Studies	4	-	-	-	100
Elective Courses (Area of Research Interest) Any One						
PHTTM1E001T	Tourism, International Relations and Cultural Diplomacy	4	-	-	-	100
PHTTM1E002T	Public Archeology and Archeotourism					
PHTTM1E003T	Trans-Cultural Tourism and Heritage Research					
PHTTM1E004T	Trans-Himalayan Tourism					
PHTTM1E005T	New Media, Customer Relationship Management in Service Industry					
PHTTM1E006T	Services Marketing					
PHTTM1E007T	Responsible Tourism					
PHTTM1E008T	Special Interest Tourism					
Total		16	-	-	-	400


17/12/19
Assistant Registrar
(Academics)

Encl: Syllabus of Ph.D. in Department of Tourism and Travel Management

To: Head, Department of Tourism and Travel Management

Copy to: OSD (Exam)

**Syllabus of Direct Ph.D./Ph.D (Service Candidate)/ Part-Time Ph.D
Programme in Tourism and Travel Management**

Central University of Jammu

Scheme of the Course

Course Code	Course Title	Credits	ESC	Max. Marks
PHDTTM1C001T	Tourism Planning, Public Policy And Governance	04	100	100
PHDTTM1C002T	Research Methodology and Computer Applications	04	100	100
PHDTTM1C003T	Research Themes and Challenges in Tourism Studies	04	100	100
	Area of Research Interest (Student may choose any course from the following courses as per his/her area of interest)			
PHDTTM1E001T	Tourism, International Relations and Cultural Diplomacy	Choose any one	100	100
PHDTTM1E002T	Public Archeology and Archeotourism			
PHDTTM1E003T	Trans-Cultural Tourism and Heritage Research			
PHDTTM1E004T	Trans-Himalayan Tourism			
PHDTTM1E005T	New Media, Customer Relationship Management In Service Industry			
PHDTTM1E006T	Services Marketing			
PHDTTM1E007T	Responsible Tourism			
PHDTTM1E008T	Special Interest Tourism			
	Total	16		400

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Contact Hrs/Week: 4 Hrs

COURSE CODE	PH11M1C001T
COURSE TITLE	Tourism Planning, Public Policy And Governance
UNIT-1	Tourism planning and Public Policy, Interplay between Tourism Policy Development, Multi-Level Governance and Processes of Economic Globalization, Politics, Public Policy and Political Systems and their Role in Tourism Development theories and models (Laissez-faire theory, Modernization theory, Trickle-down theory, Neoliberal theory, Dependency theory, Irridex Model, Bottom-Up approach, Social exchange theory), Tourism development platforms (Advocacy platform, Cautionary platform, Adaptancy platform Knowledge based platform, Social Justice platform).
UNIT-2	Tourism planning and Innovation, Stakeholders involved in destination management, Social, Cultural, Economical, Technological, Environmental, Physical Impacts, Commoditization, Tokenism, Displacement effects, Demonstration Effects, Carrying Capacity, Types of Carrying Capacity, Community Participation, Theory of Community Participation Destination governance, Destination community and its importance, Role of Technology in the Hospitality Industry, The Development of Technology in the Hospitality Industry, Level of Community participation and Power Redistribution and Visitor Impact management
UNIT-3	Local and Regional Tourism Policy and Power: Conceptual Categories, Policy Roles and Geographical Scales, Broad Aims of Regional and Local Tourism Policy, Changing Structures, Innovations and the Impacts of Tourism Policy, Power Theory and the Drivers of Local and Regional Tourism Policy, Future Research Agendas, Tourism Communities and Growth Management: Communities and Tourism Growth, Development of Growth Management Ideas, Growth Management Strategies, Design Control, Destination Governance, Carrying Capacity Management, Community Visioning, Growth Monitoring, Issues and Challenges of Growth Management.
UNIT-4	Tourism in Twenty-first Century, Factors Contributing to the Growth of Global Tourism, Global Tourism by 2020, Regional Tourism by 2020, Changing Patterns in

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	Asia- Pacific Travel and Tourism, Emerging Tourism Destination Countries in the Asia- Pacific Region, New Competitive Global Emerging Destinations, Globalization and Liberalization.
References	<ul style="list-style-type: none"> • Bramwell, B., and Lane, B. (eds) (2000). Tourism Collaboration and Partnerships: Politics, Practice and Sustainability. Clevedon: Channel View Publications. • Dye, T. (1978). Understanding Public Policy, 3rd edn. Englewood Cliffs: Prentice Hall. • Hall, C. M. (2000). Tourism Planning. Harlow: Prentice Hall. • Hall, C. M. (2000). Tourism Planning: Policies, Processes and Relationships. Harlow: Pearson. • Hudson, R. (2001). Producing Places. New York: Guilford Press. • Lea, J. (1988). Tourism and Development in the Third World. London: Routledge. • Riley, M., Ladkin, A., and Szivas, E. (2002). Tourism Employment: Analysis and Planning. Clevedon: Channel View Publications. • Shaw, G., and Williams, A. M. (2004). Tourism and Tourism Places. London: Sage.

Note : Teaching pedagogy besides classroom teaching will essentially include practical latest researches conducted in the areas besides case studies.

Teaching leaning process will include inputs from those who have expertise in the areas i.e practitioner's views will be incorporated.

Teaching leaning process will include practical application and implementation of different techniques

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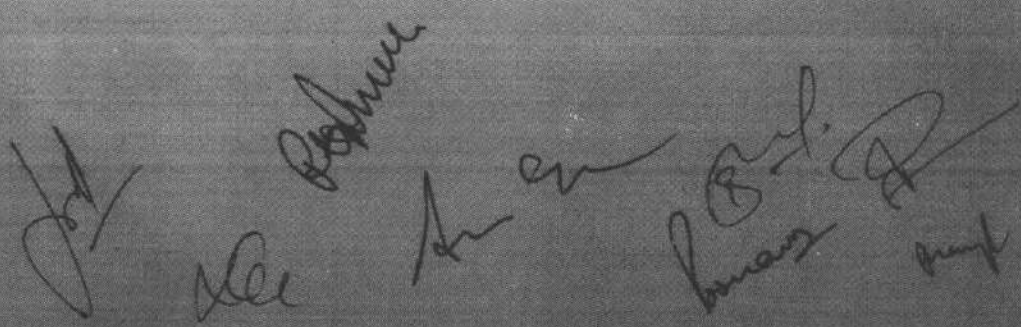
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Contact Hrs/Week: 4 Hrs

COURSE CODE	PH/TM/C002T
COURSE TITLE	Research Methodology and Computer Applications
UNIT-1	Research meaning : Nature and scope : Significance of research ,types of research: Exploratory research ,descriptive research ,Causal Research, Research process: Ethics in research, Emerging trends in research
UNIT-2	Sampling : Meaning and scope: Sampling procedure; Types of sampling: Probabilty and Non-probability sampling, Sample size determination; Primary and secondary data; Methods of data collection . Research design : Questionnaire designing
UNIT-3	Research Methods for data Analysis: Conceptual framework and application of data .Data analysis techniques; Hypothesis testing; T-test, Analysis of Variance (ANOVA); Correlation and regression Analysis; Factor analysis.
UNIT-4	Computer Applications: Exposure to SPSS and other Software, Communicating research results, report preparation and presentation, . Structure and Contents of a Research Paper and Dissertation
References	<ul style="list-style-type: none"> • Levin, R.I. and Rubin, D.S., Statistics for Management, e/7th, 1998, Pearson. • Naresh Malhotra, Marketing Research: An Applied Orientation, e/6th, 2010, Pearson. • Donald R. Cooper, Pamela S. Schindler, Business Research Methods, 8/e, 2006, Tata McGraw-Hill Co. Ltd. • Zikmund, W. G. Business Research Methods, 7/e, 2012, Cengage Learning • Field, A. Discovering Statistics Using SPSS, Third Edition, Sage Publication • Electronic Resources: Databases, E-libraries, Online Journals etc.

Note : Teaching pedagogy besides classroom teaching will essentially include practical implementation of different techniques



Contact Hrs/Week: 4 Hrs

COURSE CODE	PH0TTMIC003T
COURSE TITLE	RESEARCH THEMES AND CHALLENGES IN TOURISM STUDIES
UNIT-1	Critical Tourism Research: Dialectical Thinking and Critical Pedagogy in Tourism Studies, Researcher Reflexivity in Tourism Studies Research, The Under-Conceptualizations of Tourism Studies for Post disciplinary Knowing, Tourism Research and Knowledge Production: Development, Impact and Community, Representation, Identity and Image, Culture, Heritage and Cultural Change, Destination Portfolio Analysis, Authenticity Issues, Semiotics, Social Tourism.
UNIT-2	Research Concepts (Part-I): Action Research, Autoethnography, Case Study, Constructionism, Content Analysis, Critical Realism, Critical Theory, Deduction, Delphi Method, Document Analysis, Empiricism, Epistemology, Ethical Practice, Ethno- methodology, Evaluation Research, Experiment.
UNIT-3	Research Concepts (Part-II): Figurationism, Grounded Theory, Interview/Focus Group, Modelling, Narrative, Paradigm, Phenomenology, Positivism, Feminism, Realism, Survey, Symbolic Interactionism, Meta-Analysis in Tourism Research.
UNIT-4	Cultural Tourism Research: Developments and Perspectives in Cultural Tourism Research, Cultural tourism research methods, Ethnographic Research in Cultural Tourism, Application of Grounded Theory to Cultural Tourism Research.
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- Yin, R.K. (2003). Case Study Research: Design and Methods. 3rd edn. London: Thousand Oaks, CA: Sage
- Crotty, M. (1998). The Foundations of Social Research: Meanings and Perspectives in the Research Process. London: Sage
- Phillimore, J. and Goodson, L. (2004). Qualitative Research in Tourism: Ontologies, Epistemologies and Methodologies. London: Routledge
- Smith, S. (2010). Practical Tourism Research. Wallingford: CABI
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- Fowler, F.J.Jr. (2009). Survey Research Methods, 4th edn. London: Sage

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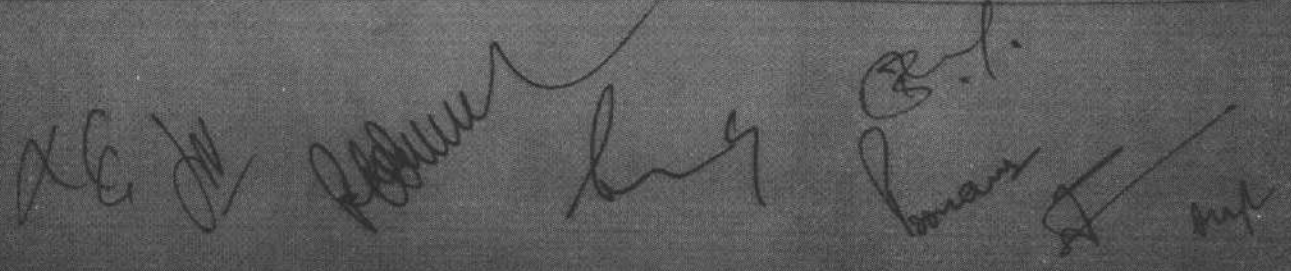
Teaching learning process will include inputs from those who have expertise in the areas i.e practitioner's views will be incorporated.

Teaching learning process will include practical application and implementation of different techniques

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Contact Hrs/Week: 5 Hrs

COURSE CODE	PH01TM1E001T
COURSE TITLE	TOURISM, INTERNATIONAL RELATIONS AND CULTURAL DIPLOMACY
UNIT-1	Tourismscapes:Global-Local Nexus. Globalization Debate:A brief Overview;Tourism and Globalization;Characterstics of Tourismscapes:Boundries of Tourism scapes;Modes of Tourismscapes:The cultural tourism programme;Global culture and cultural flows;Cultural Differentialism,Cultural Hybridization,Cultural Convergence.
UNIT-2	International Relations;Concepts and Isssues.Principles of International Relations;Dominanace ,Reciprocity and Identity ,Theories of International Relations,Role of tourism in International relations.Global flows of people;Migratants,Migration,Tourist and tourism.
UNIT-3	The History and Evolution of the Field of Cultural Diplomacy :Cultural Diplomacy. Power, Influence and Reputation. Models of Cultural Diplomacy, Models of cultural diplomacy, Soft Power (Special Focus on Tourism). Hard Power and Smart Power, Politics of Negotiation ,Culture in tourism-development, Cultural identities in a globalizing world: Conditions for sustainability of intercultural tourism: Power ,resources and identity: the influence of tourism on indigenous communities.
UNIT-4	The political economy of third world tourism ;New Socio-Environmental Movements; Environmentalism and power; The politics of tourism; Globalization and the politics of External Influences: Sustainable tourism as political discourse: International case study of Cultural Diplomacy
References	<ul style="list-style-type: none"> • Julie Reeves, Culture and International Relations. Narratives, Natives and Tourists. Routledge • Krugman, P. (1995). Development, Geography and Economic Theory. Cambridge, MA: MIT Press. • Featherstone, M. (1991). Consumer Culture and Postmodernism. London


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- R D Putnam. (1988). *Diplomacy and Domestic Politics: The Logic of Two-Level Games*
- Bourdieu, P. (1991). *Language and Symbolic Power*. Cambridge: Polity.
- Dann, G. (1996a). *The Language of Tourism: A Sociolinguistic Interpretation*. Wallingford, Oxon.: CAB International.
- Edensor, T. (1998). *Tourists at the Taj: Performance and Meaning at a Symbolic Site*. London: Routledge.
- Hannerz, U. (1996). *Transnational Connections: Culture, People, Places*. London: Routledge.
- Kirshenblatt-Gimblett, B. (1998). *Destination Culture: Tourism, Museums, and Heritage*. Berkeley: University of California Press.
- Shields, R. (1991). *Places on the Margin: Alternative Geographies of Modernity*. London: Routledge.
- Chris Barker (2007). *Cultural Studies: Theory and Practice*. Sage
- Miller, Federic. P. et al (2009). *Cultural Diplomacy*, VDM Publishing

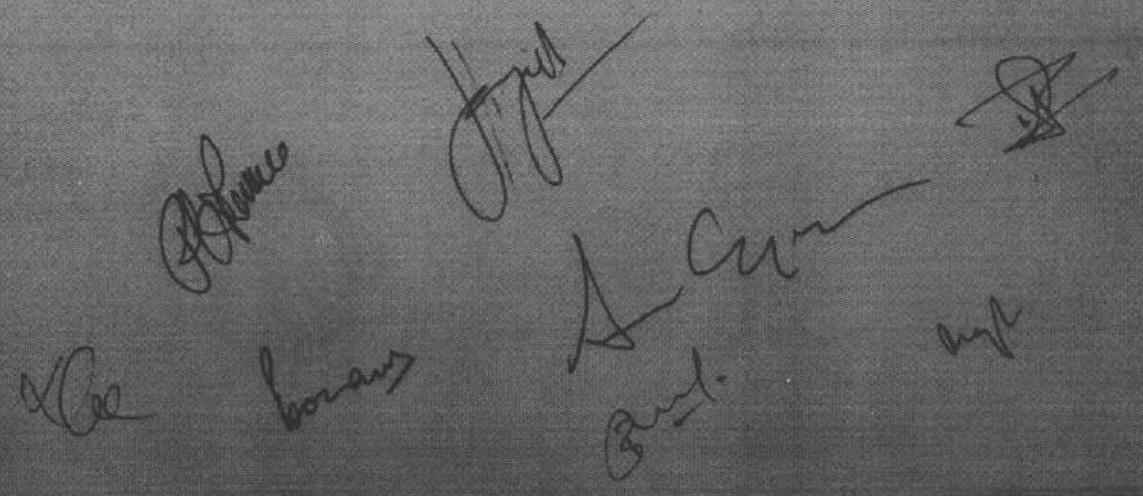
368

**Syllabus of Direct Ph.D./Ph.D (Service Candidate)/ Part-Time Ph.D
Programme in Tourism and Travel Management**

Central University of Jammu

Scheme of the Course

Course Code	Course Title	Credits	ESC	Max. Marks
PHDTTM1C001T	Tourism Planning, Public Policy And Governance	04	100	100
PHDTTM1C002T	Research Methodology and Computer Applications	04	100	100
PHDTTM1C003T	Research Themes and Challenges in Tourism Studies	04	100	100
	Area of Research Interest (Student may choose any course from the following courses as per his/her area of interest)			
PHDTTM1E001T	Tourism, International Relations and Cultural Diplomacy	Choose any one	04	100
PHDTTM1E002T	Public Archeology and Archeotourism			
PHDTTM1E003T	Trans-Cultural Tourism and Heritage Research			
PHDTTM1E004T	Trans-Himalayan Tourism			
PHDTTM1E005T	New Media, Customer Relationship Management In Service Industry			
PHDTTM1E006T	Services Marketing			
PHDTTM1E007T	Responsible Tourism			
PHDTTM1E008T	Special Interest Tourism			
	Total	16		400



Contact Hrs/Week: 4 Hrs

COURSE CODE	PHUTTMIC001T
COURSE TITLE	Tourism Planning, Public Policy And Governance
UNIT-1	Tourism planning and Public Policy, Interplay between Tourism Policy Development, Multi-Level Governance and Processes of Economic Globalization, Politics, Public Policy and Political Systems and their Role in Tourism Development theories and models (Laissez-faire theory, Modernization theory, Trickle-down theory, Neoliberal theory, Dependency theory, Irridex Model, Bottom-Up approach, Social exchange theory), Tourism development platforms (Advocacy platform, Cautionary platform, Adaptancy platform Knowledge based platform, Social Justice platform).
UNIT-2	Tourism planning and Innovation, Stakeholders involved in destination management. Social, Cultural, Economical, Technological, Environmental, Physical Impacts, Commoditization, Tokenism, Displacement effects, Demonstration Effects, Carrying Capacity, Types of Carrying Capacity, Community Participation, Theory of Community Participation Destination governance, Destination community and its importance, Role of Technology in the Hospitality Industry, The Development of Technology in the Hospitality Industry, Level of Community participation and Power Redistribution and Visitor Impact management
UNIT-3	Local and Regional Tourism Policy and Power: Conceptual Categories, Policy Roles and Geographical Scales, Broad Aims of Regional and Local Tourism Policy, Changing Structures, Innovations and the Impacts of Tourism Policy, Power Theory and the Drivers of Local and Regional Tourism Policy, Future Research Agendas, Tourism Communities and Growth Management: Communities and Tourism Growth, Development of Growth Management Ideas, Growth Management Strategies, Design Control, Destination Governance, Carrying Capacity Management, Community Visioning, Growth Monitoring, Issues and Challenges of Growth Management.
UNIT-4	Tourism in Twenty-first Century, Factors Contributing to the Growth of Global Tourism, Global Tourism by 2020, Regional Tourism by 2020, Changing Patterns in




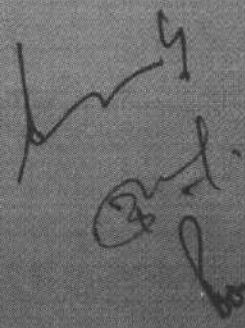
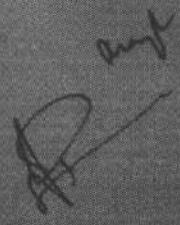
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	Asia- Pacific Travel and Tourism, Emerging Tourism Destination Countries in the Asia- Pacific Region, New Competitive Global Emerging Destinations, Globalization and Liberalization.
References	<ul style="list-style-type: none"> • Bramwell, B., and Lane, B. (eds) (2000). Tourism Collaboration and Partnerships: Politics, Practice and Sustainability. Clevedon: Channel View Publications. • Dye, T. (1978). Understanding Public Policy, 3rd edn. Englewood Cliffs: Prentice Hall. • Hall, C. M. (2000). Tourism Planning. Harlow: Prentice Hall. • Hall, C. M. (2000). Tourism Planning: Policies, Processes and Relationships. Harlow: Pearson. • Hudson, R. (2001). Producing Places. New York: Guilford Press. • Lea, J. (1988). Tourism and Development in the Third World. London: Routledge. • Riley, M., Ladkin, A., and Szivas, E. (2002). Tourism Employment: Analysis and Planning. Clevedon: Channel View Publications. • Shaw, G., and Williams, A. M. (2004). Tourism and Tourism Places. London: Sage.

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Teaching leaning process will include practical application and implementation of different techniques

Contact Hrs/Week: 4 Hrs

COURSE CODE	PH TTMIC002T
COURSE TITLE	Research Methodology and Computer Applications
UNIT-1	Research meaning : Nature and scope ; Significance of research ,types of research: Exploratory research ,descriptive research ,Causal Research, Research process: Ethics in research, Emerging trends in research
UNIT-2	Sampling : Meaning and scope; Sampling procedure; Types of sampling: Probability and Non-probability sampling, Sample size determination; Primary and secondary data; Methods of data collection ; Research design ; Questionnaire designing.
UNIT-3	Research Methods for data Analysis: Conceptual framework and application of data ,Data analysis techniques; Hypothesis testing; T-test, Analysis of Variance (ANOVA); Correlation and regression Analysis; Factor analysis.
UNIT-4	Computer Applications: Exposure to SPSS and other Software, Communicating research results, report preparation and presentation, , Structure and Contents of a Research Paper and Dissertation
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COURSE CODE	PH 0 TTMIC003T
COURSE TITLE	RESEARCH THEMES AND CHALLENGES IN TOURISM STUDIES
UNIT-1	Critical Tourism Research: Dialectical Thinking and Critical Pedagogy in Tourism Studies, Researcher Reflexivity in Tourism Studies Research, The Under-Conceptualizations of Tourism Studies for Post disciplinary Knowing, Tourism Research and Knowledge Production: Development, Impact and Community, Representation, Identity and Image, Culture, Heritage and Cultural Change, Destination Portfolio Analysis, Authenticity Issues, Semiotics, Social Tourism.
UNIT-2	Research Concepts (Part-I): Action Research, Autoethnography, Case Study, Constructionism, Content Analysis, Critical Realism, Critical Theory, Deduction, Delphi Method, Document Analysis, Empiricism, Epistemology, Ethical Practice, Ethno- methodology, Evaluation Research, Experiment.
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Contact Hrs/Week: 5 Hrs

COURSE CODE	PH01TMIE001T
COURSE TITLE	TOURISM, INTERNATIONAL RELATIONS AND CULTURAL DIPLOMACY
UNIT-1	Tourismscapes:Global-Local Nexus, Globalization Debate:A brief Overview:Tourism and Globalization;Characterstics of Tourismscapes;Boundries of Tourism scapes;Modes of Tourismscapes:The cultural tourism programme;Global culture and cultural flows;Cultural Differentialism,Cultural Hybridization,Cultural Convergence.
UNIT-2	International Relations;Concepts and Issues,Principles of International Relations:Dominanace ,Reciprocity and Identity ,Theories of International Relations,Role of tourism in International relations,Global flows of people:Migratants,Migration,Tourist and tourism.
UNIT-3	The History and Evolution of the Field of Cultural Diplomacy :Cultural Diplomacy: Power, Influence and Reputation, Models of Cultural Diplomacy, Models of cultural diplomacy, Soft Power (Special Focus on Tourism), Hard Power and Smart Power, Politics of Negotiation ,Culture in tourism development, Cultural identities in a globalizing world: Conditions for sustainability of intercultural tourism: Power ,resources and identity; the influence of tourism on indigenous communities.
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- R D Putnam. (1988). Diplomacy and Domestic Politics: The Logic of Two-Level Games
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- Salvik, H. (2004). Intercultural Communication and Diplomacy. Diplo Foundation
- Henry, K. (1995). Diplomacy. Simon & Schuster
- Brown, C. (2001). Understanding International Relations. Palgrave Macmillan.

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Teaching learning process will include practical application and implementation of different techniques

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Contact Hrs/Week: 4 Hrs

COURSE CODE	PH0TTM1E002T
COURSE TITLE	Public Archeology and Archeotourism
UNIT-1	Archeology: Conceptualizations of Archeology; History of Archeology; Importance of Archeology; Different Theoretical Approaches in Archeology; Public Archeology and Modern Society; Concept of Civilization and Origin of Civilizations.
UNIT-2	Key Concepts in Archeology-I: The Antiquity of Man; Archaeoastronomy; Archaeogenetics; Catastrophist Archaeology; Cognitive Archaeology; Archaeology of Cult and Religion; Cultural Evolution, Organization of Society; The Evolution of Social Complexity and the State;
UNIT-3	Key Concepts in Archeology-II: Darwinian Archaeology; The Descent of Man; Theorising Diffusion and Population Movements; Ecological Archaeology; Environmental Archaeology; Ethnoarchaeology; Experimental Archaeology; Feminist Archaeology; Archaeological Formation Processes; Gender Archaeology; Habitus; Historical Archaeology; Holistic/Contextual Archaeology; Indigenous Archaeologies; Landscape Archeology.
UNIT-4	Archeology and Tourism: Conceptualizations of Archeotourism; Determinants of Archeotourism; Dimensions of Archeotourism; Segmentation of Archeotourism; Correlates between Archeotourism and Archeological Sites; The UNESCO listed Heritage Sites and their influence on Archeological tourism; Archeological Tourism and Recreation Opportunity Spectrum; Archeological Tourism and Ethnic Sensitivity.
References	<ul style="list-style-type: none"> • Cultural Heritage Specialist Guide Training and Certification Programme for UNESCO World Heritage Sites: A Training Manual for Heritage Guides. UNESCO and Institute for Tourism Studies, 3rd Edition. • Tourism at World Heritage Sites: The Site Manager's Handbook (2nd Edition), ICOMOS International Committee of Cultural Tourism, World Tourism Organisation: Madrid • Andrews, G. 1991. Management of archaeological projects. London: English Heritage. • Atkinson, R. J. C. 1953. Field archaeology (2nd edn). London: Methuen. • Renfrew, C. 1975. The emergence of civilization. London: Methuen. • Renfrew, C. 1984. Approaches to social archaeology. Edinburgh: Edinburgh University Press.

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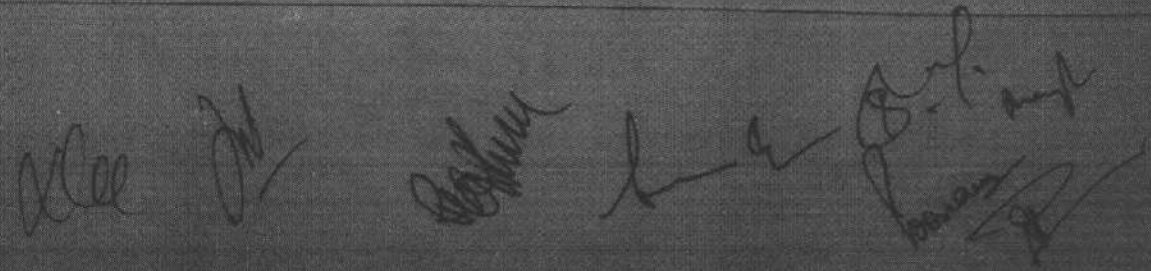
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Contact Hrs/Week: 4 Hrs

COURSE CODE	PHI0TTMIE003T
COURSE TITLE	Trans-Cultural Tourism and Heritage Research
UNIT-1	Cultural Studies: Conceptualization of Culture in the context of humanism; socio-anthropological perspectives on culture; Universal components of culture; Psychological and ecological determinants of culture; Culture as a byproduct of human activity; Materialization of Culture; Meta Culture; Multiculturalism, Cultural Hybridization and Synthesis; Cultural Convergence; Researching beyond local cultural boundaries; Ethnocentrism, Xenophobia; Cultural Diplomacy and transformation of cultural conflicts; Cultural tolerance in ethnically diverse societies.
UNIT-2	Cultural Tourism: Thematic approach to defining cultural tourism: Descriptive definitions: supply-side approach; Conceptual definitions: demand-side approach. Cultural Motivation. Typology of culture Tourists. Resourcefulness of Culture as serious leisure resource; Discourses in Contemporary Cultural Tourism; Cultural Tourism Assets; Cultural Tourism Economics; Cultural Tourism as Vehicle for Intercultural understanding.
UNIT-3	Heritage Studies: Heritage: Meanings and Reflexivities; Evolutionary Perspectives on Heritage; Classification of Heritage; Heritage Production; Interpretation of Heritage at International level; Interpretation of Heritage at National and Regional levels; Heritage, Identity and Nostalgia. Brief of Indian Heritage and its pluralistic Character: Ancient, Medieval and Modern.
UNIT-4	Heritage Tourism: Definitions and Conceptualizations of Heritage Tourism; The Supply and Demand Side of Heritage; Authenticity Deliberations in Heritage Tourism; Marketing Philosophies in Heritage Tourism, Partnerships and Collaborations in Heritage Tourism, Local Community Involvement in Heritage Tourism and its Benefits; Representations and Practices in Heritage Tourism: Museums, Heritage Hotels and Resorts; Heritage Villages; Heritage Festivals, Heritage Tourism Merchandize.
References:	<ul style="list-style-type: none"> • Pedersen, A. (2002) Managing Tourism at World Heritage Sites. A Practical Manual for World Heritage Site Managers. Paris: UNESCO. • Ashworth, G. (2003). Heritage: Management, Interpretation, Identity. London: Continuum Books • Boniface, P. and Fowler, P. (1993). Heritage and Tourism in the Global Village. London: Routledge. • Frost, W. (2006). Cultural Heritage and Tourism in Australia: Concepts and Issues. Department of Management Working Paper Series: Monash University



357

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COURSE CODE	PH/TTM1E004T
COURSE TITLE	Trans-Himalayan Tourism
UNIT-1	Trans-Himalayan Zone :-Geographical Description of the Tans-Himalayan Zone: Areas and Countries of Trans Himalayan Zone; Physiographic; Historiography; Demographic Profile; Climatic Conditions; Mountains and Valleys; Flora and Fauna; Route Descriptions, Famous Treks and Trails
UNIT-2	Trans Himalayan Society :-Tran-Himalayan Ethnography; Races, Tribes, Castes and Religious communities; Social Structure and Social Dynamics of Major Ethnic, Caste and Religious communities of Trans-Himalayas; Migration, Immigration and Ethnicity in Trans-Himalayan Region; Gender Differences and Status of Women in the Trans-Himalayas; Process of Assimilation and Integration; Great Traditions, Little Traditions and Cultural Syncretism in the Tran-Himalayas
UNIT-3	Trans Himalayan Economy:- Traditional Economy and Occupation in the Trans-Himalayas; Class Structure Relevance and Concepts of Tribal and Peasant Society in the Tran-Himalayan Region; Patterns of Urbanization, Industrialization and State intervention in the Trans-Himalayas; Livelihood Structures and Options; Economic Empowerment of Women Initiatives.
UNIT-4	Trans-Himalayan Tourism :-Trans -Himalayan Tourism Profile; Significance of Tourism for Trans-Himalayan Economy, Society, Polity and Ecology; Trans-Himalayan Tourism Resources and Strategic Development: Ecotourism Resources and Development, Adventure Tourism Resources and Development; Community Based Tourism Resources and Development; Mountain Tourism potential and Development; Spiritual Tourism Resources and Development ; cross border tourism potential and Development.
References	<ul style="list-style-type: none"> • Makhan, J: The Himalayas: An Anthropological Perspective • Aris, M. (1980), The Early History of a Himalayan Kingdom, Vikas, New Delhi. • ves, Jack and Messerly B. (1989), The Himalayan Dilemma, UNU, Routledge, London • Rahu • I, Ram, (1970), Himalayan Boderland, Vikas Publications, New Delhi. • Zurick and Karan, P. P. (1999), Himalaya: Life on the Edge of the World, The Johns Hopkins University Press, Baltimore, London

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Contact Hrs/Week: 4 Hrs

COURSE CODE	PHOTTM1E005T
COURSE TITLE	NEW MEDIA,CUSTOMER RELATIONSHIP MANAGEMENT IN SERVICE INDUSTRY
UNIT-1	<p>Social Media as platform for marketing, advertising and online revenue</p> <p>Future Trends: Social media and Service Marketing ,Customer Relationship Management Fundamentals- Theoretical perspectives of relationship, Evolution of relationship marketing, Stages of relationship, Issues of relationship, Purpose of relationship marketing, Approach towards marketing: A paradigm shift, Historical Perspectives, CRM Definitions, Emergence of CRM practice:, CRM cycle, Stakeholders in CRM, Significance of CRM, Types of CRM, Success Factors in CRM, CRM Comprehension, CRM Implementation</p>
UNIT-2	<p>Digital marketing ,Strategy ,SEO ,website traffic , Online sales promotion ,Customer Relationship Management: Emerging Perspectives: Employee-Organization Relationship, Employee- Customer Linkage, Factors effecting employee"s customer oriented behavior, Essentials of building employee relationship, Employee customer orientation, Service Failure, Service Recovery Management, Service Recovery Paradox, Customer Life time value, customer profitability, customer recall management, customer experience management</p>
UNIT-3	<p>The growth of e-Commerce -- Technologies and Benefits; e-Commerce business models; Electronic Distribution; Internet Marketing; Social Media and Social Networking; Emerging Trends -M-commerce, SoLoMo, Approach towards marketing: A paradigm shift, Historical Perspectives, CRM Definitions, Emergence of CRM practice:, CRM cycle, Stakeholders in CRM, Significance of CRM, Types of CRM, Success Factors in CRM, CRM Comprehension, CRM Implementation</p>
UNIT-4	<p>Customer Relationship Management: Technology Dimensions - E- CRM in Business, CRM: A changing Perspective, Features of e-CRM, Advantages of e-CRM, Technologies of e-CRM, Voice Portals, Web Phones, BOTs, Virtual Customer Representative, Customer Relationship Portals, Functional Components of CRM, Database Management:</p>
References	<ul style="list-style-type: none"> • Fearn-Banks, K. (2011) Crisis Communications: A Casebook Approach, 4th edition, Routledge • Kotler, P., Bowen, J. and Makens, J. (2005) Marketing for Hospitality and Tourism, 4th edition, Prentice Hall. • Kudrle, A. and Sandler, M. (1995) Public Relations for Hospitality Managers: Communicating for Greater Profits, John Wiley & Sons Inc. • McCabe, S (2009) Marketing Communications in Tourism and Hospitality: Concepts, Strategies and Cases. London: Routledge • Meerman SD. (2010) The New Rules of Marketing and PR: How to use social Media, blogs, New Releases, online video, and Viral marketing to reach buyers directly, 2nd edition, John Wiley & Sons Inc. • Ritchie, BW. (2009) Crisis and Disaster Management for Tourism. Bristol: Channel View Publications

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- Alok Kumar Rai : Customer Relationship Management: Concepts and Cases (Second Edition)-PHI Learning
- Simon Knox, Adrian Payne, Stan Maklan: Customer Relationship Management- Routledge Inc.
- Bhasin- Customer Relationship Management (Wiley Dreamtech)
- Dyche- Customer relationship management handbook prentice hall
- Peelan-Customer relationship management prentice hall
- Kristin Anderson, Carol Kerr : Customer relationship management, McGraw-Hill Professional
- Chaturvedi-Customer Relationship Management(Excel Books)
- Sheth J N, Parvatiyar A. and Shainesh G. : Customer relationship management: Emerging Concepts, Tools, & Applications, Tata McGraw-Hill Education
- Lumar- Customer Relationship Management (Wiley India)

Note : Teaching pedagogy besides classroom teaching will essentially include practical latest researches conducted in the areas besides case studies.

Teaching leaning process will include inputs from those who have expertise in the areas i.e practitioner's views will be incorporated.

Teaching leaning process will include practical application and implementation of different techniques

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Contact Hrs/Week; 4 Hrs

COURSE CODE	PH TTM1E006T
COURSE TITLE	SERVICES MARKETING
UNIT-1	Definition – Service Economy – Evolution and growth of service sector – Nature and Scope of Services – Unique characteristics of services - Challenges and issues in Services Marketing. Generic challenges-virtual organization, diversity, new carriers; Generation X, Generation Y, Globalization, Economic climate, World threat, New technology, Service quality Management: Service Quality Audit – GAP Model of Service Quality – Total quality Services Marketing – Service Excellence, Pricing of Services – Pricing Strategies Linked to Value Perceptions.
UNIT-2	Assessing service market potential - Classification of services – Expanded marketing mix – Service marketing – Environment and trends – Service market segmentation, targeting and positioning. Virtual Reality, Augmented Reality, Near Field Communication (NFC), Remarketing, Real Time Bidding, Dynamic advertising.
UNIT-3	Positioning of services – Designing service delivery System, Service Channel – Pricing of services, methods – Service marketing triangle - Integrated Service marketing communication. Owned Media (Websites, Blogs, News Letters), Earned Media (Social Media, Online Directories, Review sites) & Paid Media (Text Advertisements, Display Advertisements, Search Advertisements)
UNIT-4	Service Marketing Strategies for health – Hospitality – Tourism – Financial – Logistics - Educational – Entertainment & public utility Information technique Services, External Marketing: Word of Mouth Communication, Interactive Marketing: Management of Moments of Truth - Service Deficiencies - consumer Grievance Recovery Strategies.
References	<ul style="list-style-type: none"> • Christopher H.Lovelock and Jochen Wirtz, Services Marketing, Pearson Education, New Delhi, 7th edition, 2011. • Hoffman, Marketing of Services, Cengage Learning, 1st Edition, 2008 • Kenneth E Clow, et al, Services Marketing Operation Management and Strategy, Biztantra, 2nd Edition, New Delhi, 2004. • Halen Woodroffe, Services Marketing, McMillan, 2003. • Valarie Zeithaml et al, Services Marketing, 5th International Edition, Tata McGraw Hill, 2007. • Christian Gronroos, Services Management and Marketing a CRM Approach, John Wiley, 2001. • Gronroos, Service Management and Marketing –Wiley India.

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Teaching learning process will include practical application and implementation of different techniques

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Contact Hrs/Week: 4 Hrs

COURSE CODE	PH/TTM1E007T
COURSE TITLE	RESPONSIBLE TOURISM
UNIT-1	Special Interest Tourism- Definition and Scope; Adventure Tourism: Concept of Adventure, Types of adventure sports and tourism; Pro poor tourism - Tourism and Poverty alleviation programmes, intervention of UNWTO, Rural development and Employment Generation, STEP initiative of UNWTO; Endogenous Tourism; Ecotourism and Sustainable Tourism: Definition, Concept and Emergence of Eco-tourism, An overview of Eco-tourists, Eco-tourism Resources in India, The impacts of ecotourism in an area (positive and negatives), some best practised ecotourism sites in world, Responsible tourism, concept and definition, the three pillars of responsible tourism, relevance in the modern world.
UNIT-2	Emergence of Responsible -tourism, growth and development, Definitions, Principles of Eco-tourism, Responsible tourism Activities & The impacts of ecotourism in an area (positive and negatives), Role of Eco tourism in WTO and Ministry of Tourism GOI. Nature, scope and significance, Destination development and its components; Principles of Destination Development, Major consideration in destination management; Steps and stages in destination planning, Tourism master plan, Outline of project reports for Destination development
UNIT-3	Concept of eco tourism and sustainable tourism and its Management, Global Significance of Sustainable Tourism-Agenda - 21 for Travel and Tourism Industry, Approaches of Sustainable Tourism- Standardization and Certification - Alternative Tourism - Responsible Tourism - Waste Management, suggestion for long term sustainable tourism, National Tourism Policy; Tourism policy of Kerala
UNIT-4	Meaning- Principles - Benefit and issues of Responsible Tourism Development - Millennium development goals and sustainability in tourism, Role and significance of Millennium development goals in tourism development, Responsible Tourism Planning; Principles of STP-Basic concepts in Sustainable Design, Environmental Impact Assessment, Evaluation of Impact of Tourism Site - Carrying capacity, Various Case studies
References	<ul style="list-style-type: none"> • Sustainable Tourism - A Marketing Perspective, Victor T.C. Middleton and Rebecca Hawkins • Sustainable Tourism, Salah Wahab and John J. Pigram,

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 Alex, Reference, [Signature], [Signature], [Signature]

- Sustainable Development - Economic and Policy, P.K. Rao
- Singh T.V., J. Kaur and D.P. Singh (1982) Studies in Tourism Wildlife paris conservation (New Delhi Metropolitan)
- Singh S.C. (Ed.) 1989) Impact of tourism on mountain Environment (Meerat Research India Publications)
- Verma P.S. and V.R. Agarwal: 1996 Principles of Ecology (New Delhi S. Chand)
- Kandari O. P., Chandra Ashish : Tourism Biodiversity & Sustainable Development, Isha Books, Delhi.
- Martin F. Price: People and Tourism in Fragile Environments
- Rob Harris, Ernie Heath, Lorin Toepper, Peter Williams: Sustainable Tourism: A Marketing Perspective
- Yvette Reisinger, PhD & Lindsay Turner. Cross-Cultural Behaviour in Tourism- concepts and analysis
- Ratandeep Singh: Indian Ecotourism Environmental Rules and Regulations
- P.C. Sinha (ed): Ecotourism and Mass Tourism
- WTO Report: Tourism and Poverty Alleviation
- WTO Report: Ecotourism Market Reports
- Khoshov T.N. 1987. The Planning and Management of Environmentally sensitive areas. (U.S., A.Lengman).
- Kormandy E.J. (1989) Environmental issues Concerns and Strategies (New Delhi) Ashish
- Negi. J (1990) Tourism development and Resource conservation
- Kandari O. P., Chandra Ashish : Tourism Biodiversity & Sustainable Development, Isha Books, Delhi.
- Cooper C.P. ED. Progress in Tourism, Recreation and Hospitality Management C.B.S. Publisher, New Delhi.
- Getz Donald (1986) Models in Tourism Planning Tourism Management
- Likorish Leonard J. 1991 Development Tourism Destination Policies and Perspectives.
- Seth P.N. (1987) Successful Tourism Planning Management , Cross Publication.
- Mathieson, Alistey, "Tourism: Economic, Physical and Social Impact" (Longman)
- NCAER, "Cost Benefit Study of Tourism" - A report (NACAEP New Delhi)

Note : Teaching pedagogy besides classroom teaching will essentially include practical latest researches conducted in the areas besides case studies.

Teaching leaning process will include inputs from those who have expertise in the areas i.e practitioner's views will be incorporated.

Teaching leaning process will include practical application and implementation of different techniques

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Contact Hrs/Week: 4 Hrs

COURSE CODE	PH0TTM1E008T
COURSE TITLE	Special Interest Tourism
UNIT-1	Introduction to Special Interest Tourism, Introduction of Alternate tourism to the market. Defining and Conceptual Base of Special Interest Tourism (SIT), Special interest tourism demand, Image creation/media for SIT products, Special Interest Tourism Interest Cycle and Leisure-Tourism Interest Cycle, Resources for Special Interest Tourism Development, Theme and introductory Ideas of Educational Tourism.
UNIT-2	Theme and introductory Ideas of: Experiential Tourism, Community Based Tourism, Dark Tourism, Introductory Ideas of Slum Tourism, Space Tourism, Aboriginal Cultures and Indigenous Tourism, Ayurveda, Health & Wellness Tourism, Spiritual Tourism, Gastronomic Tourism, Wine and Food Tourism, Senior Tourism, Education Tourism.
UNIT-3	Rural Tourism, Urban Tourism, Musical Festivals and Events, Adventure Tourism, Cruise Tourism, Dark Tourism, Health and Wellness Tourism, Film and Media Based Tourism, Backpacking and Flash packing, Celebrating Special Interest Events in India and in the world, Case Studies related to Entrepreneurship and Small Business in SIT w.r.t. India
UNIT-4	Exploring possibilities of Special Interest Travel in India and in the world, Profiling major players in Special Interest tours in India and in the world, Popular travel itineraries of Special Interest tourism in India and in the world, Performing Arts of India: Classical Dances, Folk Dances and Folk Culture, Handicrafts and Textiles: Souvenir Industry, Craft Metals, Retail Attractions: Large Shopping Malls, Small Specialist Shops, Recreational Attractions: Theme Parks, Golf Courses, Casinos, Contemporary Cultural Events: Art Galleries, Theatres, Modern Architecture, Events & Festivals – Concerts, Exhibitions, Performances
References	<ul style="list-style-type: none"> • B. Chaithanya Deva : An Introduction to Indian Music • Jasleen Dhamija : Indian Folk Arts and Crafts • Khoshov T.N. 1987. The Planning and Management of Environmentally sensitive areas. (U.S., A.Lengman). • Kormandy E.J. (1989) Environmental issues Concerns and Strategies (New Delhi) Ashish • Negi. J (1990) Tourism development and Resource conservation

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जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया-सूचानी; बागला, जिला संबा-181143 जम्मू; जम्मू एवं कश्मीर
Rahya- Suchani (Bagla), District Samba-181143, Jammu (J&K)

Annexure - XV

No. CUJ/Acad/II-15/11/2020/III

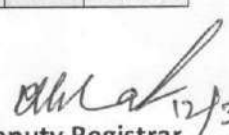
12th March, 2020

NOTIFICATION No. 22/2020

Sub: Course Scheme and Syllabus for Ph.D. in Life Science (Molecular Biology) offered by Centre for Molecular Biology w.e.f. Academic Session 2019 -20 – Reg.

It is hereby notified for the information of all concerned that on the recommendation of the Board of Studies of Centre for Molecular Biology and Dean, School of Life Sciences, the Academic Council has approved the following **Course Scheme and Syllabus for Ph.D. in Life Science (Molecular Biology)** offered by Centre for Molecular Biology w.e.f. Academic Session 2019-20. The approved course scheme and syllabus are as follows:

Course Code	Course Title	Credit	CIA	MSE	ESE	Max Marks
Core Courses						
PHMOL1C001T	Research Methodology	4	25	25	50	100
PHMOL1C002T	Advances in Molecular Biology	4	25	25	50	100
PHMOL1C003S	Synopsis Preparation and Presentation	4	25	25	50	100
Elective Courses (Any One)						
PHMOL1E001T	Advances in Probiotics and Host Microbiome	4	25	25	50	100
PHMOL1E002T	Molecular Genetics	4	25	25	50	100
PHMOL1E003T	Protein Engineering & Enzyme technology	4	25	25	50	100
PHMOL1E004T	Microbial Pathogenicity	4	25	25	50	100
Total		16	-	-	-	400


Deputy Registrar
(Admin - HR)

Encl: Syllabus for Ph.D. in Life Science (Molecular Biology)

To:
Head, Centre for Molecular Biology

Copy to:
Controller of Examinations

Syllabus

Ph.D. Life Science (Molecular Biology)

(w.e.f. 2019-20)



Centre for Molecular Biology

CENTRAL UNIVERSITY OF JAMMU

JAMMU, J&K

PAPER I: RESEARCH METHODOLOGY

Course Code:

Credits 4

Course description: This course emphasizes on research methodology or involves specific techniques that are adopted in research process to collect, assemble and evaluate data. It defines those tools that are used to gather relevant information in a specific research study.

Learning objectives: The students should be able to understand some basic concepts of research and its methodologies, identify appropriate research topics, select and define appropriate research problem and parameters, prepare a project proposal, organize and conduct research in a more appropriate manner and write a research report and thesis.

Unit I: Defining the research problem

- 1.1. Identification of research areas; Review of literature; Research gap analysis; Methodology for literature review;
- 1.2. Defining objectives; Research design, Sampling, Expected outcomes

Unit II: Approaches and Methodology

- 2.1. Experimental design to address the problem; Data collection approach; Tools and techniques required to address the problem;
- 2.2. Protocol design; Documentation of the experiments and results; Data analysis and interpretation; presentation of the data; Manuscript preparation.

Unit III: Advanced Analytical Techniques

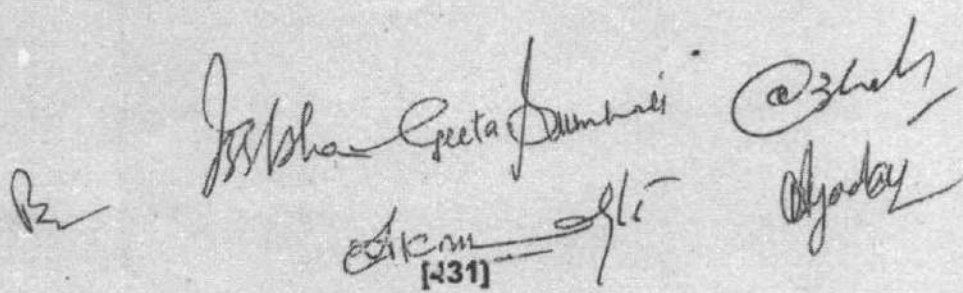
- 3.1. Basic techniques in Microscopy, Spectroscopy, Spectrometry
- 3.2. Chromatography, Centrifugation, Electrophoresis, Cell disruption, Analysis and separation of biomolecules.

Unit-IV: Core Techniques of Molecular Biology

- 4.1. Cloning and expression vectors, molecular cloning methodologies, genomic and cDNA libraries, reverse genetics, site directed mutagenesis;
- 4.2. Protein expression, blotting techniques, Next Generation Sequencing (NGS) and Protein sequencing methodologies.

Unit V: Bioinformatics and statistics

- 5.1. Introduction, basic concepts, resources, sequence databases: Nucleic acid and Protein sequence databases, protein structure Databases, Sequence Analysis: Basic concepts of sequence similarity, identity and homology, Sequence alignment and data analysis.
- 5.2. Introduction, basic concepts, data types and applications of biostatistical tools. Frequency distribution, dispersions, Central tendency, Regression and Correlation. Probability distribution, t-test, Chi-square test, statistical analysis software, Analysis of variance (ANOVA), Design of experiments.



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PAPER 2: ADVANCES IN MOLECULAR BIOLOGY

Course Code:

Credits 4

Course description: Course dealing with the molecular basis of cellular function, with emphasizes upon modern developments, and the foundation for practical applications of this knowledge. The course will involve the conceptual background necessary to appreciate the applications of molecular biology.

Learning objectives: The advances in molecular biology gives in-depth knowledge to students about advances in biological processes at molecular level through the investigation of the underlying mechanisms.

Unit I Genome organization

- 1.1. Gene structure and organization: Prokaryotic and Eukaryotic genes structural organization -regulatory elements of genes, coding region and terminal region of the genes.
- 1.2. Genome replication, DNA damage and repair, Transcription and translation.

Unit II Genome and Gene regulation

- 2.1. Gene regulation Transcriptional, and post-transcriptional gene silencing, housekeeping genes and tissue specific gene regulation.
- 2.2. Regulation of gene expression in eukaryotic: DNA binding proteins; Helix turn Helix proteins, Helix loop helix proteins, Helix turn beta, Zinc finger proteins, leucine zipper proteins and homeodomain proteins.

Unit III Recombinant DNA technology

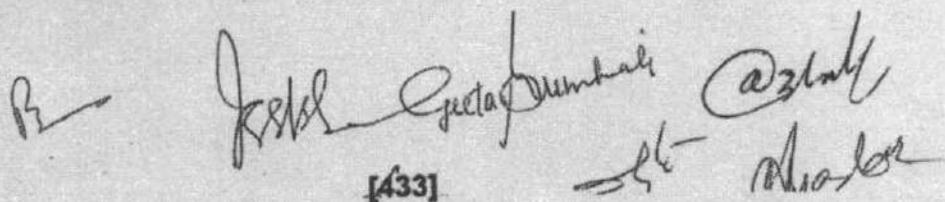
- 3.1 Enzymes used in molecular biology and recombinant DNA research, important enzymes such as RNA replicase, reverse transcriptase, ligase, polymerase, ribozyme, restrictions etc., cloning and expression vectors: plasmid, Lamda (λ), Cosmid, M13, phagmid and viral vector for animal cells, synthetic chromosomes BAC, YAC and PAC.
- 3.2 Transformation and Plasmid isolation; PCR; DNA sequencing methods, Global expression profiling; Whole genome analysis of mRNA and protein expression; Real time PCR, Microarrays and their applications

Unit IV Proteomics

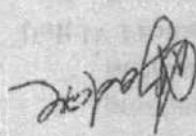
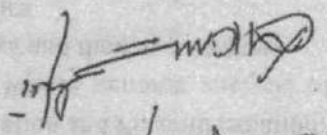
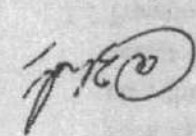
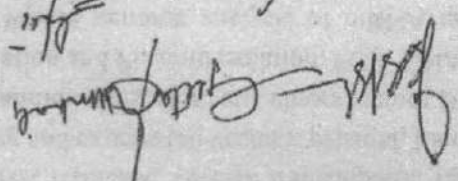
4. Proteomics: strategies in proteomics, protein-protein interaction, mapping of protein interaction, applications of proteomics. Protein separation quantification and identification:
- 4.2. Applications of proteomics, Drug discovery, Disease diagnosis, identification and characterization of novel proteins

Unit V Disease diagnosis and gene therapy

- 5.1. Diseases diagnostics: Methods of DNA analysis, diagnosis of infectious diseases, Identifying genetic diseases. gene therapy: Introduction, vectors in gene therapy, advances in gene therapy, safety assurances,
- 5.2. Nanobiotechnology: Introduction, Definitions and current practice, Types of nanomaterials and their classifications, Applications of Nano-Materials in Biosystems, Nanomaterials and Diagnostics/Drug Delivery and Therapeutics



 [433]

Suggested reading

1. Cooper and Hausman; The Cell: A molecular approach; Sinauer Associates Press; 8th edition
2. Behlke MA, Berghof-Jäger K, Brown T, et al.; Polymerase Chain Reaction: Theory and Technology, 2019; Caister Academic Press.
3. Karp G, Iwasa J, and Marshall W; Karp's Cell Biology, 2018; Wiley-Blackwell Press
4. Krebs JE, Goldstein ES, Kilpatrick ST; Lewin's Genes XII, 2017. Jones & Bartlett Learning.
5. Lodish H, Berk A, et al.; Molecular Cell Biology; WH Freeman Press; 8th edition.
6. T. A. Brown; Genome 3, 2007; Garland Science Press; 3rd Edition.
7. Wilson and Walker; Principles and techniques of biochemistry and molecular biology; Cambridge University Press; 8th edition.
8. Campbell MA; Discovering genomics, proteomics and bioinformatics, 2006; Pearson Education Limited. 2nd Edition.
9. Green MR, Sambrook J; Molecular Cloning: A Laboratory Manual, 2012; Cold Spring Harbor Laboratory Press.
10. Primrose SB; Principles of gene manipulation and genomics, 2006; Oxford Press; 7th Edition.

ELECTIVE I: ADVANCES IN PROBIOTICS AND HOST MICROBIOME

Course Code:

Credits 4

Courses description: The course provides a comprehensive overview of gut microbiota and metabolomics research from molecular analysis to population-based global health considerations.

Learning objectives: To familiarize the students with the various aspects of probiotics and host microbiome for the betterment of human life.

Unit I: Probiotics

- 1.1. Introduction and history of Probiotics, Probiotic microorganisms, safety of probiotic microorganisms, legal status of probiotics, identification of probiotics by molecular method, characteristics of probiotics for selection and maintenance of probiotic microorganisms.
- 1.2. Role of probiotics in health and disease: prevention and treatment of gastrointestinal bacterial infection, constipations, urinary tract infection, antihypertensive and cholesterol level.

Unit II: Mechanism of probiotics

- 2.1. Mechanism of probiotics: enhancement of the epithelial barrier, increase adhesion to intestinal mucosa, and concomitant inhibition of pathogen adhesion, complete exclusion, production of antimicrobial substances.
- 2.2. Modulation of immune system, Interaction of probiotics with the gut-associated immune system, TLR and probiotics, modification of intestinal bacterial metabolite action, alteration of microecology of healthy and dysbiosis human's gut.

Unit III: Prebiotics and health benefits

- 3.1. Prebiotics: concept, definition, criteria, types and sources of prebiotics, prebiotics and gut microflora.
- 3.2. Prebiotics and health benefits: mineral absorption, immune response, cancer prevention, IBD, elderly health and infant health, prebiotics in foods.

Unit IV: Human microbiome

- 4.1. Microbiome: An introduction of human microbiome, human gut, oral and skin microbiota, human gut microbiota diversity and its consequence on the human health.
- 4.2. Gut microbiota profiling, current research methods of microbiome analysis, human gut microbiota and immunity, role of microbiome in therapeutic and diagnostic.

Unit V Metabolomics

- 5.1 Introduction to metabolomics and its application, integrated microbiome and metabolome analysis, metabolomics-based approach to identify compounds affecting human health.

Dr. *Geeta Jaiswal* @2017
Shyam - Ji - Yadav

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5.2 Metabolomics resources and analysis; metabolites identification and characterization, metabolomics in practice and case study from literature. Opportunities and challenges in nutritional genomics and metabolomics.

Suggested readings

1. Brown SM, Next-generation DNA Sequencing Informatics. (2015). Cold Spring Harbor Laboratory Press. 2nd edition
2. David WM. Bioinformatics Sequence and genome analysis. (2006). Cold Spring Harbor Laboratory press. 2nd edition
3. Edward I. Gut Microbiota: Interactive effect on nutrition and health. (2018). Academic Press. 1st edition.
4. Faintuch J and Faintuch S. Microbiome and Metabolome in Diagnosis, Therapy, and other Strategic Applications. (2019). Academic Press. 1st edition.
5. Fanos V. Metabolomics and Microbiomics. (2016). Academic Press. 1st edition.
6. Glenn RG and Marcel R. Handbook of Prebiotics. (2008). CRC press. 1st edition.
7. Jenny Gu and Bourne PE. Structural Bioinformatics. Wiley-Blackwell; 2nd edition.
8. Kochhar S. and Martin FP. Metabolomics and Gut Microbiota in Nutrition and Disease. (2015). Springer London Heidelberg New York Dordrecht. 1st edition.
9. Lee YK and Salminen S. Handbook of Probiotics and Prebiotics. (2009). A John Willey and Sons Inc. Publication. 2nd edition.
10. Maria A and Moise R. The Gut Microbiome: Exploring the Connection between Microbes, Diet, and Health. (2017). Greenwood. 1st edition.

Jyoti S. Dumbre, PhD
Dr. Jyoti S. Dumbre

ELECTIVE 2: MOLECULAR GENETICS

Course Code:

Credits 4

Course description: This course is designed to make students familiar with the field of basic and advanced molecular genetics. Open discussions of fundamental topics of molecular genetics will also be conducted.

Learning outcome: Provide students with an understanding of a) organization of genome and the concept of genes b) inheritance of genetic information in living organisms c) causes of variation in the genetic material d) genetic models used for the study of molecular genetics e) genetics of human diseases e) concepts of genomics, epigenomics, and transcriptomics.

Unit I: Chromosome, genome and gene

- 1.1. Chromatin and Chromosome organization: Histones, nucleosome and higher-level organization; Functional states of chromatin and alterations in chromatin organization. Metaphase chromosomes, centromere and kinetochore, telomere and its maintenance, holocentric chromosomes, heterochromatin and euchromatin, position effect variegation, Chromosomal domains (matrix, loop domains) and their functional significance.
- 1.2. Genome and the concept of gene: Organization of nuclear and organellar genomes, C-value paradox, Repetitive DNA-satellite DNA and interspersed repeated DNAs, Transposable elements, LINES, SINES, Alu family and their application in genome mapping. Fine structure of gene, split genes, pseudogenes, non-coding genes, overlapping genes and multi-gene families.

Unit II: Inheritance, variation and genetic models

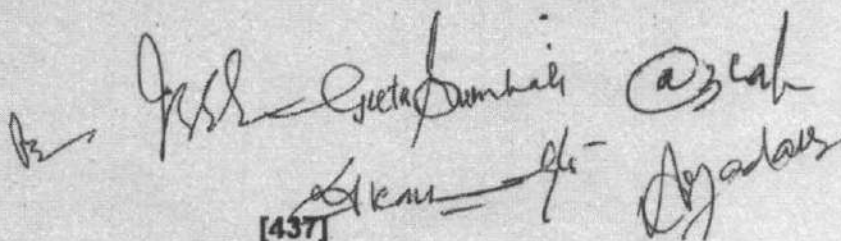
- 2.1 Inheritance and genetic models; Laws of inheritance, Linkage and linkage disequilibrium, Chromosome inheritance, Cytoplasmic inheritance, Sex-linked inheritance, Quantitative inheritance. Genetic models-E. coli, Yeast, Arabidopsis, Drosophila, C. elegans, Mouse.
- 2.2. Mutation and chromosome variations; Classification, mechanism, repair, role in evolution. Ploidy (Polyploidy, aneuploidy), chromosomal rearrangements - duplication, deletion, inversion, and translocation.

Unit III: Molecular evolutionary genetics

- 3.1. Genetic variability in population: Nucleotide sequence variation, adaptive genetic polymorphism, balanced polymorphism.
- 3.2. Molecular evolution and Phylogenetics: Molecular evolution, molecular clock. Construction of phylogenetic tree using nucleotide and protein sequences, DNA-DNA hybridization, nucleotide sequence comparison, amino acid sequence comparison, homology.

Unit IV: Genetics of Diseases

- 4.1. Chromosomal, Single gene and epigenetic disorders: Structural and numerical, Autosomal/sex chromosomal, Some examples (Syndromes/Cancer/Infertility). Inborn errors of metabolism, haemoglobinopathies. Mechanisms-Imprinting/methylation, chromatin remodeling); Current understanding; examples. Mitochondrial myopathies.
- 4.2. Candidate gene identification; Genetic polymorphism and disease susceptibility; Association studies- markers from candidate gene/pathways; whole genome association (Single nucleotide polymorphism, CNVs); Sporadic cases; Common examples.



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Unit V: Omics

- 5.1 Genomics and Epigenomics: Introduction to genomics, genomic sequencing, gene annotation, metagenomics. Introduction to epigenomics, DNA methylation, Chip-seq technology, chromatin topology.
- 5.2 Transcriptomics: Introduction to Transcriptomics, Overview of Non-Coding RNAs and iCLIP, Coding RNA, scRNA – seq, Metatranscriptomics, Assembly and Annotation.

Suggested readings

- 1. Klug WS, Cummings MR., Spencer CA, Palladino MA; Concepts of Genetics, 2013; Pearson Education Inc.
- 2. Krebs JE, Goldstein ES, Kilpatrick ST.; Lewin's Genes XII, 2017; Jones & Bartlett Learning.
- 3. Brown TA, Brown T; Introduction to Genetics: A Molecular Approach, 2012; Garland Science Press.
- 4. Russell PJ; iGenetics: A Molecular Approach, 2017; 3rd edition.
- 5. Brooker RJ; Genetics: Analysis and Principles, 2005; McGraw-Hill Higher Education.
- 6. Snustad DP, Simmons MJ; Genetics, 2011; Wiley-Blackwell Press; 6th Edition.
- 7. Pevsner J; Bioinformatics and functional genomics, 2015; Wiley-Blackwell Press.
- 8. Nielsen R and Slatkin M; An introduction to population genetics theory and applications, 2013; Sinauer Associates, Inc. Publishers Sunderland, Massachusetts U.S.A.
- 9. Campbell MA and Heyer LJ; Discovering genomics, proteomics and bioinformatics, 2009; Pearson Education Inc. 2nd Edition.
- 10. William K. Essentials of genetics, 2015; Pearson Education Inc. 9th Edition

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A signature: *Arshad*
A signature: *Sam*
A signature: *Shantanu*
Initials: *Rz*

ELECTIVE 3: PROTEIN ENGINEERING AND ENZYME TECHNOLOGY

Course Code:

Credits 4

Course Objective: The objective of the course is to provide students with an understanding of fundamentals of enzyme structure and function and kinetics of soluble and immobilized enzymes, as they are produced and applied in biotechnological industries. To impart knowledge on various protein structures and to learn and understand the strategies of protein engineering.

Learning outcome: On successful completion of this course the students will be able to understand the basics of enzyme, structure, function, enzyme kinetics, enzyme immobilization, protein engineering, protein purification and the applications of enzymes in different industries.

Unit I: Protein structure and function

- 1.1. Introduction to protein engineering; physicochemical classification of amino acids, and their -R groups; conformation of proteins, the Ramachandran plot, folding, tertiary structure and structural domains and motifs of proteins.
- 1.2. Analysis of protein structure by CD spectroscopy, MALDI-TOF, NMR, X-ray diffraction studies; prediction of protein structure and conformation from sequence data, relationship between structure and function.

Unit II: Protein Engineering and Design

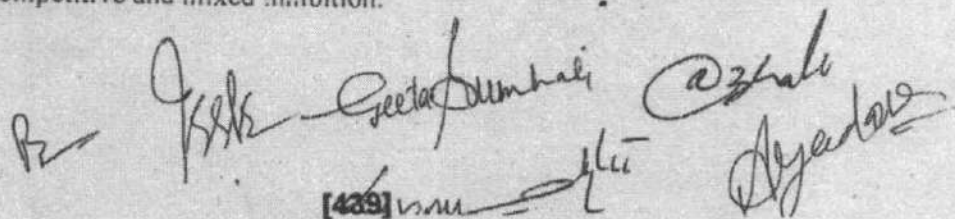
- 2.1. Methods in protein engineering and design – physical, computational, biochemical and molecular techniques; protein engineering in lipase class of enzymes; chemical modifications of proteins
- 2.2. Protein design, in vivo and in vitro mutagenesis (random, semi random), site directed mutagenesis, sequence comparisons and predictions, directed evolution, DNA shuffling, examples.

Unit III: Enzyme and Enzyme Technology

- 3.1. Aim and scope of enzymes and enzyme technology, classification of enzymes, sources of enzymes, approaches for isolation and screening strategies for novel enzymes, media for enzyme production, purification of enzyme,
- 3.2. Enzyme assay methods, specific activity, activity units, advantages of enzyme catalysis, chemo-, regio-, and enantioselectivity, biotransformation with isolated enzyme and whole cells, business, major manufacturers of enzymes in India and World.

Unit IV: Enzyme kinetics and Mechanism

- 4.1. Mechanism of enzyme catalysis, concept of active site and energetics of enzyme, Michaelis-Menten parameters, determination of V_{max} , K_m , K_{cat} , turnover number, Lineweaver-Burk plots.
- 4.2. Effect of pH, ionic strength, temperature and pressure on enzyme activity, reversible reaction, enzyme inhibition, substrate and product inhibition, competitive, non-competitive, uncompetitive and mixed inhibition.



 [439]

Unit V: Immobilised enzymes and enzyme biosensor

- 5.1. Application of enzymes in analysis, types of biosensors, calorimetric, potentiometric, amperometric, optical piezoelectric biosensors and immunosensors.
- 5.2. Enzyme reactors, design of immobilized enzyme reactors, selection of bioprocess equipment (upstream and downstream) stirred tank reactors, plug flow reactors, continuous flow stirred tank fluidized bed reactor, membrane/hollow fiber reactors, batch and fed-batch bioreactors, continuous bioreactors, bioreactor operation.

Suggested Reading:

1. Kun L.Y. Microbial Biotechnology: Principles and Applications. World Scientific Publishing Company. (2013). 4th edition
2. Weetal H. Immobilized enzyme technology: Research and applications. (2012) Springer science and Business media. 1st edition.
3. El-Mansi EMC, Nielsen J, Mousdale D, Carlson RP. Fermentation Microbiology and Biotechnology. (2019). CRC Press. 4th edition.
4. Trevor P. Enzymes: Biochemistry, Biotechnology and Clinical Chemistry. (2007). Horwood Publishing Limited, United Kingdom. 2nd edition.
5. Brown SM, Next-generation DNA Sequencing Informatics. (2015). Cold Spring Harbor Laboratory Press. 2nd edition.
6. Price N and Stevens L. Fundamentals of enzymology. (2009). Oxford University Press, India. 3rd edition.
7. Sambrook J and Russel DW. Molecular Cloning: A Laboratory Manual, Vols 1-3. (2001). Cold Spring Harbor Laboratory Press. 3rd edition.
8. Brown TA, An Introduction: Gene Cloning and DNA Analysis. (2007). Wiley-Blackwell. 6th edition.
9. Stanbury P, Whitaker A and Hall S. Principles of Fermentation Technology. (1997) Butterworth Heineman, Aditya Books (P) Ltd. 2nd edition.
10. Shuler M and Kaigi F. Bioprocess Engineering: Basic Concepts. (2002). Pearson Education. 2nd edition.

Dr. Geta Jambhale
Dr. Anjali
Dr. Anjali

ELECTIVE IV: MICROBIAL PATHOGENICITY

Course Code:

Credits - 4

Course objective: This course aims to apprise researchers about the role of microbes as pathogens. Students will be imparted knowledge of different fundamentals concepts and specialized knowledge of medical and diagnostic microbiology. It will help to create skilled professionals with expertise in molecular diagnosis of diseases.

Learning outcome: Study of this course will contribute to clinical research in industries and academia.

Unit I Classical view of microbial pathogenicity

- 1.1. Normal flora of human body, Introduction to bacterial diseases *i.e* Gram positive bacteria Gram negative bacteria of medical importance
- 1.2. Introduction to medically important fungi and diseases caused, General characters & classification of significant human parasites

Unit II Current perspective of microbial pathogenicity

- 2.1. Epidemiology and biology of emerging and re-emerging microbial pathogens, Disease outbreaks, integrated disease surveillance program by National Centre for disease control- Ebola, Swine Flu, SARS, Plague, Dengue, Zika, Chikungunya
- 2.2. Current topics in fungal, bacterial and viral genetics with the emerging knowledge of sequence databases available and ongoing projects

Unit III Molecular basis of disease development

- 3.1. Understanding the mechanisms available for genetic variability in different pathogens to defy host immune system, Role of bacterial adhesions and virulence factors in inducing pathogenicity
- 3.2. Host signaling in response to infections, general concepts in the molecular mechanism of gene transfers and their significance

Unit IV Advances in disease detection

- 4.1. Current DNA/RNA and protein based approaches in clinical microbiology in diagnosis of outbreaks/infections used in routine and advanced clinical microbiology laboratories
- 4.2. Use of next generation sequencing approaches in qualitative and quantitative microbial assays-their introduction and significance

Unit V Control of microbial pathogenesis

- 5.1. Advances in the field of antimicrobials and vaccine technology in combating microbial diseases
- 5.2. Molecular basis of antimicrobial resistance, Case studies on Tuberculosis with emergence of MDR, XDR and TDR TB.

[441]

ANNEXURE - II
APPROVED
Ph.D. Course work
Semester -I

Paper I: Contemporary Literary Theory

Credits: 04

Objectives: The course intends to provide the students an opportunity to study important contemporary critical and literary trends and approaches. The course briefly introduces the important trends and approaches such as Postcolonialism, Dalit Aesthetics, Translation Studies, Comparative Literature, Gender Issues, Ecocriticism, Contemporary Poetics, Folk Literature and Cultural Studies.

Unit-I Contemporary Poetics: India and the World

a. Introduction to Indian Poetics

A.K. Ramanujan. "Is there an Indian Way of Thinking?" *Collected Essays of A.K. Ramanujan*. Ed. Vinay Dharwadkar. Delhi: Oxford University Press 1999 pp. 34-42

b. Introduction to Western Poetics : Poetics (Aristotle)

Unit -II Postcolonial Studies

i) Parry, Benita. 'Postcolonialism: Conceptual Category or Chimera?' in *Yearbook of English Studies*, vol 27, The Politics of Postcolonial Criticism (1997), pp. 3-21.

ii) Pratt, Mary Louise. *Imperial Eyes*.

iii) Said, Edward. *Orientalism*. [I recommend the 2nd edition, which has an appendix where Said responds to critics of his concept of Orientalism.] *Orientalism* is considered by many as the founding work on which postcolonial theory developed.

iv) Spivak, Gayatri. 'Can the Subaltern Speak?' in Nelson and Grossberg, *Marxism and the Interpretation of Culture*, pp. 271-313.

v) Young, Robert, *Colonial Desire: Hybridity in Theory, Culture, and Race* (Routledge, 1995)

Ramoon

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3rd Mar. 2020

Unit III - Comparative Studies:

Gayatri Spivak : Death of a Discipline
Avdesh Kumar: (The) Future of Comparative Literary Studies
Sisir Kumar Das: "Muses in Isolation"

Unit IV - Translation Studies

Bassnett, S. *Translation Studies* (Excerpts)
Coomaraswamy, Ananda, 1987. "The Art of the East and of the West"
Avadesh K Singh Translation in the 21st Century

Unit V - Tribal/ Dalit Literature:

- i) Louis Dumont Homo Heirarchus
- ii) Conoholly, William E. Identity Deference: Democratic Negotiations of Political Paradox
- iii) Limbale: Dalit Aesthetics
- iv) Gopal Guru: Humiliation (Selections)

Books for Reference:

Sisir Kumar Das (*Comparative Literature Theory and Practice*, eds. Amiya Dev and Sisir Kumar Das. Shimla: MAS and Allied Publishers.)

Stephanie Genz and B. Brabon *Postfeminism Cultural Texts and Theories*, Edinburgh University Press

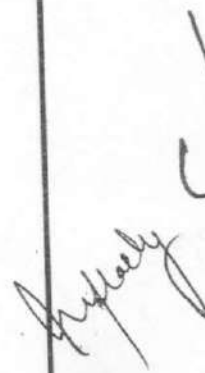
Bassnett, S., 1980/2002. *Translation Studies*, London: Routledge, 3rd rev. edn.

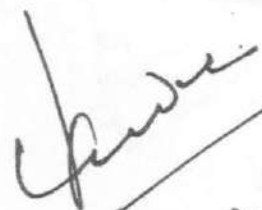
Bernheimer, C. ed. 1995. *Comparative Literature in the Age of Multiculturalism*, Baltimore: Johns Hopkins University Press.

Coomaraswamy, Ananda, 1987. "The Art of the East and of the West", *Essays in National Idealism*, Delhi: Munshiram Manoharlal Publishers.

Lawson







3.3.2020

Cononolly, William E. *Identity Deference: Democratic Negotiations of Political Paradox*. New York: Cornell University Press, 1991. Print.

Gupta, Ramnika. *Who Is Adivasi*. New Delhi: Radhna Krishna, 2008. Print.

Bhabha, Homi K. *Location of Culture*. New York: Routledge, 2004.

Derrida, J. *Writing and Difference*. New York: Routledge, 2012.

Habib, M.A.R. *A History of Literary Criticism and Theory*. New Delhi: Blackwell Publishing House, 2012.

Hall, Donald E. *Queer Theories*. London: McMillan Palgrave, 2012.

Jung, C.G. *Aspects of the Masculine*. New York: Routledge, 2012.

Lacan, Jacques. *Between Psycho analysis*. N.Y. Routledge, 2001.

Loomba, Ania. *Colonialism/Postcolonialism*. New York: Routledge, 2014.

Mills, Sara. *Discourse*. New York: Routledge, 2004.

Nayar, Pramod K. *Postcolonialism*. New Delhi: Bloomsbury Publishing India, 2016.

Pai, Sudha. *Dalit Assertion*. New Delhi: OUP, 2013.

Rhys, Jean. *Wide Sargasso Sea*. London: Penguin Books, 2000.

Richards, I.A. *Principles of Literary Criticism*. London: Routledge; 2012.

Ryan, Michael. *Literary Theory: A Practical Introduction*. West Sussex: Blackwell Publishing Ltd., 2017.

Said, Edward W. *Orientalism*. Mumbai, Penguin Publishers, 2014.

Spivak, G.C. *In Other Worlds*. London: Routledge, 2012.

Raveen

Supriya

Chandini
3.3.2020

- (viii) A Brief Literature Review/ Review of Scholarships in the area
- (ix) Socio-cultural Background related to the topic.
- (x) Work Plan
- (xi) Chapter Division
- (xii) Notes and Works Cited

Unit-IV Documentation

- (i) Debt to Previous Scholarships
- (ii) Socio-Legal issues: Originality, Integrity, Plagiarism
- (iii) Format: Citation format for print and non-print sources MLA, Chicago Style Manual
- (iv) Style Format: Spelling, punctuation, italics, abbreviations

Unit- V Mechanics of Writing/ Presentation:

Paper margin, spacing, heading and title, page numbers, correction and insertion, electronic submission
How to make Power-point Presentation

Unit-VI Research Terminology

Synopsis, abstract, hypothesis, annotated bibliography, review, review article, citation, peer review, refereed publication, catalogue, archives, call number, corporate author, database, blog, listserv, Boolean operators, full-text search, wiki, etc.

Books for Reference:

Allison, B. *The Students' Guide to Preparing Dissertations and Theses*. London: Kogan Page, 1997. Print.

Becker, H. S. *Writing for Social Scientists: How to Start and finish Your Thesis*, Chicago; University of Chicago Press, 1986.

Gilbert, Nigel. *Researching Social life*, New Delhi: Sage Publication, 1993

Goodde and Hatte. *Methods in Social Research*, New York: McGraw – Hill, 1952

Gopal, M. H. *An Introduction to Research Procedures in Social Sciences*, Bombay: Asia Publishing House, 1970

Henn, Matt; Mark Weinstein and Nick Foard, *A Short Introduction to Social Research*, New Delhi: Vistaar Publications, 2006

Hunt, Morton, *Profiles of Social Research: The Scientific Study of Human Interactions*, Bombay: Popular Prakashan, 1989

Krishnaswami, O. R. *Research Methodology in Social Sciences*, Delhi: Himalaya Publications, 2000

Kumar, Renjith. *Research Methodology: A Step by Step Guide for Research*, Delhi: Pearson

MLA Style Sheet Latest Edition

Rawan

[Signature]

[Signature]

[Signature]
5.3.20



जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया - सूचानी (बागला), जिला सांबा - 181143, जम्मू (जम्मू एवं कश्मीर)
Rahya - Suchani (Bagla), District: Samba - 181143, Jammu (J&K)



No.: CUJ/AA/HRW/Acad/VI-11/23/2020/0028 /00017

17 March, 2020

NOTIFICATION No. 28 of 2020

Sub: Migration from University of Delhi to Central University of Jammu - Transfer of credits.
- Reg.

Pursuant to the recommendation of Deans and Admission Committee of the Dept. of English, provisional admission is hereby granted in favour of **Ms Muskan Gupta** for pursuing M.A. in English (2nd Semester) subject to fulfillment of terms and conditions governing such admission.

This issues with the approval of the Competent Authority.

Muskan Dept

(Dr. Ravi Kumar)

Registrar

E-mail - registrar@cujammu.ac.in
Mobile No.- +91-9780833839

Dean
School of Languages

Head
Dept. of English

Copy to:

- Principal, Sri Venkateswara College, University of Delhi
- Examination Branch, CUJ
- P.S. to Registrar
- P.S. to Finance Officer
- Ms. Muskan Gupta

The Vice Chancellor
Central University of Jammu
Jammu

Sub: Request for admission in P.G. English Sem II

Sir

With regards I submit that, I, Muskan Gupta, want to take admission in P.G. Eng. Sem II (2019-21). I have studied my Sem. I from Delhi University and have written the semester end exams. However, result of the same is awaited (certificate attached). I have received the N.O.C. from Delhi University and also the undertaking to transfer my credits to this university as soon as the result is declared.

Your goodness is requested to grant me permission for provisional admission to Sem. II. Eng. P.G.

Thanking you in anticipation

Yours faithfully

MKG

MUSKAN GUPTA

To be discussed
in Adm. Committee

if

20th Feb. 2020

- Enclosure
1. N.O.C. from Delhi University
 2. N.O.C. from Central University
 3. Credit transfer undertaking from DU.
 4. Attendance certificate from D.U.
 5. Undertaking on judicial paper
 6. Provisional admission only



Dr. P. Hemalatha Reddy
Principal

श्री वेंकटेश्वर कलाशाला
Sri Venkateswara College

(University of Delhi)

NAAC 'A' Accredited, DBT Star Status

Benito Juarez Road, Dhaula Kuan, New Delhi-110021

Ph.: 011-24112196, 24118590, Telefax : 011-24118535

principal@svc.ac.in

Ref No.: SVC/Admn/2020/AK/

17th Feb, 2020

COLLEGE LEAVING/TRANSFER CERTIFICATE

College Roll Number : 2119003

This is to certify that Ms Muskan Gupta daughter of Mr Sanjay Gupta and Ms Mamta Gupta was a regular student of the college from 30.07.2019 to 17.02.2020 and was studying in M.A. English Semester II (I Year) class when she left the college.

Her Papers/Subjects were English (Main).

She is permitted to withdraw her name from college having paid all dues upto 17th Feb 2020. The College has no objection for her admission in Central University of Jammu and in transferring her credits of M.A. (English) Sem I to Central University of Jammu.

Her University Enrolment No. is 16BHACBHEN000005.

Her date of birth, as recorded in college register is 19/07/1998, Nineteenth July One Thousand Nine Hundred Ninety Eight (in words).

During her stay in the College, her conduct and character were found to be good.

[Signature]

Principal

Sri Venkateswara College
(University of Delhi)
Dhaula Kuan
New Delhi-110021

[Signature]



जम्मू केंद्रीय विश्वविद्यालय
Central University of Jammu

राया - सूचानी (बागला), जिला सांबा - 181143, जम्मू (जम्मू एवं कश्मीर)
Rahya - Suchani (Bagla), District: Samba - 181143, Jammu (J&K)

संख्या: CUJ/Acad/Eng-Mtg/2020/48

15 फरवरी, 2020

NO OBJECTION CERTIFICATE

Pursuant to request of Ms. Muskan Gupta D/o Late Sh. Sanjay Gupta and approval of the Hon'ble Vice-chancellor as a special case, (in exercise of powers vested by Clause 14(3), Central Universities Act, 2009): the University has no objection to admit Ms. Muskan Gupta as a special case from Sri Venkateswara College, University of Delhi in 2nd Semester, M.A. English in Department of English, Central University of Jammu subject to following conditions of Ordinance No. 42 :-

1. Student shall have to submit Migration / No Objection Certificate from University of Delhi
2. A certificate from the Principal of the College / Head of the Department last attended by her, testifying the record of attendance, conduct of the student
3. Payment of Admission Fee as prescribed by Central University of Jammu

Ms. Muskan Gupta shall submit following documents before admission in 2nd Semester of M.A. English:-

- a. Matriculation certificate
- b. Hr. Secondary Certificate
- c. Graduation Certificate
- d. M.A. English 1st Semester mark sheet issued by University of Delhi
- e. Category Certificate, if any
- f. Undertaking to abide by the decision of the Central University of Jammu. Academic Council in the case

This issues with the approval of the Vice Chancellor.

(Dr. Jitendra Kumar)

(कुलसचिव)

Registrar

Ph: 9780833339

email: registrar@cuju.ac.in

Copy to:-

1. Dean, School of Languages
2. Head, Dept. of English
3. I/c Controller of Examinations
4. P.S to VC
5. P.S to Registrar / Finance Officer



1) That the deponent Muskan Gupta is a student of Sem-2 PG English at Central University Jammu. She is currently studying from Delhi University. She is currently studying Jammu on Humanities & Commerce.

2) That the deponent deposes that her admission in Sem-2 PG English central university Jammu is subject to clearance of admission from Delhi University, in PG English academic section (2019-21).

3) That the deponent will not claim her right in admission in sem-2 PG English at Central University Jammu if deponent fails to clear the exam at Delhi University.

Muskan
Deponer

Bansil Lal Sharma
Notary Public
Jammu City

Solemnly affirmed and Declared verified on 18 Feb 2020 at Jammu the contents stated hereinabove are true
Before Me
Notary Public Jammu City
18/2/2020
Mu
Del

To Ref: CUJ/Eng/2020/127
HOD ENGLISH / CUJ / Eng / 2020 / 133
CENTRAL UNIVERSITY OF JAMMU

Date: → 5/06/20
Date: → 10/06/20

SUBJECT: Confirmation of admission in CU MA Eng Sem 2.

Sir,

I am pleased to inform that DU Sem 1 MA Eng result was declared on 26 May 2020 and I have passed the same. Basis the university guidelines, my admission was provision to MA Eng Sem 1 result.

Kindly confirm my admission and assign me roll no. for Sem 2 end semester examination.

Please find attached copy of the result along with the application.

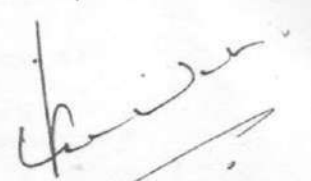
Waiting in anticipation for your approval.

Yours faithfully,
MUSKAN GUPTA Muskan
Batch 2019-2021

Recommended P/s
The Roll No. 3600219 is assigned to Ms. Muskan
Forwarded for n/a P/s.

CC: ① C.O.E, CUJ
② AR (ACAD) CUJ

AR (Acad.)


1st June 20

① As submitted earlier, the matter of confirmation of provisional admission be got approved through Departmental Admission Committee and minutes be sent to me.

② Thruafter Registration Return and Examination form of the candidate be forwarded to Controller of Exams.
HOD F.I. 1.9.1

Acad-155
12/06/2020

Acad-149
5-6-2020



University of Delhi
Semester Examination Nov-Dec 2019

TRANSCRIPT

Exam Roll No. :19079708012
Name :MUSKAN GUPTA
Course Name :(CBCS_PG) M.A. ENGLISH
Exam Sem :I
College Name :Sri Venkateswara College
Enrollment No. :Nil

Date of Printing: 26 May 2020

Sr. No.	Paper Code	Paper Name	Paper Type	Sem	Credit	Grade (TH)	Grade (PR)	Net Grade	Grade Point	Credit Point
1	120301101	LIFE, LITERATURE AND CULTURE I MEDIEVAL LITERATURE	CORE	I	5	B		B	6	30
2	120301102	LIFE, LITERATURE AND CULTURE II EARLY MODERN WORLD	CORE	I	5	B+		B+	7	35
3	120302101	CLASSICAL TO PRE-MODERN LITERATURES	ELECTIVE	I	5	B+		B+	7	35
4	120302104	POLITICS, LITERATURE AND PHILOSOPHY	ELECTIVE	I	5	B+		B+	7	35

Sem	Total Credit	Total Credit Point	SGPA	Result	CGPA
I	20	135	6.75		

Abbreviations: O: Outstanding; A+: Excellent; A: Very Good; B+: Good; B: Above Average; C: Average; D: Pass; F: Fail; AB: Absent; NA: Not Available; *: Already Appeared;

Note: [1] This is web-based transcript. This is valid for all official purpose. Students are advised to get this transcript duly authenticated by the Principal of the College/Department of the Head.

[2] Student obtaining Grade F or AB shall be considered failed in that paper/subject and be required to reappear in the examination as per examination cycle.

[3] Student has to pass the ER to become eligible for degree as per examination cycle and span period.

[4] Final Percentage of marks (%)=C.G.P.A. based on all semesters X 9.5

Date of Result Declaration: 26/05/2020

Muskan Gupta

Dean (Examinations)

Disclaimer: [1] The result displayed on university website is subject to correction, if any discrepancy is noticed at any point of time.

[2] Students should immediately contact examination branch if there is any discrepancy in the above result at Window No.-7 (between 9.30am and 3.00pm), New Examination Building (North Campus) and Window No.-7 (South Campus) within one month after the declaration of the result.

PRINT

CLOSE

Muskan Gupta
14 June 2020



Department of English
Central University of Jammu

Ref no.: CUJ/Eng/2019/38

Date: 20/01/2020

Subject: Constitution of the Committee for Credit Equivalence

The following Committee is proposed to be constituted for the credit equivalence with reference to the application submitted by Ms. Muskan Gupta for transfer of credits from University of Delhi to Central University of Jammu to pursue her M A English from II semester from CUJ.

Prof. Rasal Singh

Dean, School of Languages

Dr. Vandana Sharma

Head, Department of English

Dr. Neena Gupta Vij

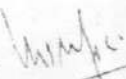
Member

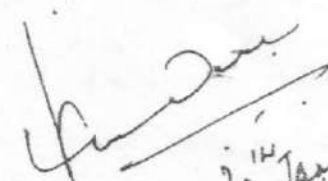
Dr. Raj Thakur

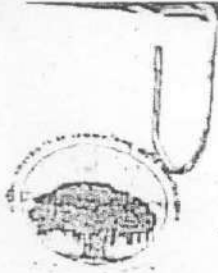
Member

Dr. Parveen Kumari

Member


21/1/2020
Prof. Rasal Singh
Dean, School of Languages


20th Jan. 2020
Dr. Vandana Sharma
Head
Department of English



Department of English
Central University of Jammu

Ref no.: CUJ/Eng/2020-L/L

Date: 21/01/2020

Observations of the Committee constituted for the Credit Equivalence vide no.

CUJ/ENG/2020/38 dated : 20/01/2020:

a) The Candidate Ms. Muskan Gupta has submitted an application for acceptance of Credit transfer from Delhi University, Sr. Venkateswara College which is recognised under section B of the UGC Act and is a member of Association of Indian Universities.

Therefore, as per Ordinance 49 point no.5 - a & b, though there exists no MOU between Delhi University and Central University of Jammu, yet on compassionate grounds and as per the position the case may be considered.

Recommendations of the Credit Equivalence Committee :

Regarding the credit transfer of M A English Semester I of Delhi University the following recommendations are made:

- a) The candidate had qualified the CUCET Exam and her name appeared in the 1st Admission List at rank 4.
- b) The total no. of credits earned in semester I are similar in both Delhi University and CUJ, which are 20.
- c) In view of the Course Equivalence, the committee holds the view that the candidate has an edge since she has done B. A Honours and therefore, has already studied the *Foundation and British Literature* Courses taught in M A English Semester I at the Central University of Jammu.
- d) However, the candidate must study one course "*Literary Criticism*" during semester III when the course is taught at Semester I level.

- Parveen
21/01/2020
Dr. Parveen Kumari

21st JAN. 2020
Dr. Raj Thakur

21/01/2020
Dr. Neena Gupta VII

21st JAN. 2020
Dr. Vandana Sharma (Head)

21/1/2020
Prof. Rasal Singri Deani

AR (Academics)

CENTRAL UNIVERSITY OF JAMMU

Raya Suchani (Bagla), Distt. Samba, Jammu- 181143 (J&K)



Note: Ref no. CU/Jing/2020/92

Date: 24/02/2020

Pursuant to the submission of documents by Ms. Muskan Gupta, Do- Late Sh. Sanjay Gupta for admission in semester II of M A English, the Admission Committee of the Department of English proposes to admit the candidate in the Semester II, in view of a vacant seat in the UR Category of Batch 2019-2021.

Pertinent to mention here that the total number of seats in the Course were 50 whereas the present strength of the students in the current batch (2019-2021) is 33.

Submitted for approval as a special case.

Dean
School of Languages

Dr. Vandana Sharma
(HOD & Convener of Admission Committee)

Dr. Neena Gupta Vij- Member

Dr. M A A Farooq- Member

Dr. Parveen Kumari - Member

Recommended
Subject to her
clearance of I sem
examinations

[Signature]
24/2/2020

[Signature]
24 Feb. 2020

[Signature]
24 Feb. 2020

[Signature]
24/2/2020



AFFIDAVIT

BZ 146592



1) Muskan Gupta D/o, Sanjay Gupta R/o H/No, Bolksh Nagar, Jammu. Solemnly affirm + Declare as under.

That the deponent is seeking a admission in semester 2, PG English academic session 2020-21 Central university Jammu transferring her from Delhi university to central university Jammu on Humanitarian grounds.

2) That the deponent depose that her admission in Sem 2 PG English central university Jammu is subject to clearance of similar from Delhi university, in PG English academic session (2019-21).

3) That the deponent will not claim her right in the admission in sem-2 PG English at central university Jammu if deponent failed to clear the exam at Delhi from Delhi university.

Muskan Dependent

Solemnly affirmed + Declared verified on 18 Feb 2020 at Jammu that the contents stated hereinabove are true + correct.
 Notary Public Jammu City
 Muskan Dependent



Dr. P. Hemalatha Reddy
Principal

श्री वेंकटेश्वर कलाशाला
Sri Venkateswara College

(University of Delhi)

NAAC 'A' Accredited, DBT Star Status
Benito Juarez Road, Dhaula Kuan, New Delhi-110021
Ph.: 011-24112196, 24118590, Telefax : 011-24118535
principal@svc.ac.in

Ref No.: SVC/Admn/2020/AK/

17th Feb, 2020

COLLEGE LEAVING/TRANSFER CERTIFICATE

College Roll Number : 2119003

This is to certify that Ms Muskan Gupta daughter of Mr Sanjay Gupta and Ms Mamta Gupta was a regular student of the college from 30.07.2019 to 17.02.2020 and was studying in M.A. English Semester II (I Year) class when she left the college.

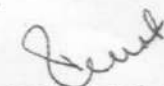
Her Papers/Subjects were English (Main).

She is permitted to withdraw her name from college having paid all dues upto 17th Feb 2020. The College has no objection for her admission in Central University of Jammu and in transferring her credits of M.A. (English) Sem I to Central University of Jammu.

Her University Enrolment No. is 16BHACBHEN000005.

Her date of birth, as recorded in college register is 19/07/1998, Nineteenth July One Thousand Nine Hundred Ninety Eight (in words).

During her stay in the College, her conduct and character were found to be good.


Principal
Sri Venkateswara College
(University of Delhi)
Dhaula Kuan
New Delhi-110021



UNIVERSITY OF DELHI
दिल्ली विश्वविद्यालय

Ref.No.Exam.III(i)/R/2019/1

Delhi, the February 17, 2020

**The Registrar,
Central University of Jammu,
Jammu (J&K)-181143**

Dear Sir/Madam,

This is with reference to the application of **Ms. MUSKAN GUPTA** Roll No. **19079708012** regarding issue of Confidential Result (Provisional Result) of (C.B.C.S.- PG) **M.A. English** Part-I (I-Semester) Examination held in November-December 2019, it is informed that the result of above said course is under compilation process and the same can be issued only when it is finally compiled.

Yours faithfully,

Section Officer (Results)



जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया - सूचानी (बागला), जिला सांबा - 181143, जम्मू (जम्मू एवं कश्मीर)
Rahya - Suchani (Bagla), District: Samba - 181143, Jammu (J&K)

संख्या: CUJ/Acad/

फरवरी, 2020

NO OBJECTION CERTIFICATE

Pursuant to request of **Ms. Muskan Gupta** D/o Late Sh. Sanjay Gupta and Smt. Mamta Gupta, the University has no objection to admit Ms. Muskan Gupta as a special case from Sri Venkateswara College, University of Delhi in 2nd Semester, M.A. English in Department of English, Central University of Jammu subject to following conditions of Ordinance No. 42 :-

1. Student shall have to submit Migration / No Objection Certificate from University of Delhi
2. A certificate from the Principal of the College / Head of the Department last attended by her, testifying the record of attendance and conduct of the student
3. Payment of Admission Fee as prescribed by Central University of Jammu

Ms. Muskan Gupta shall submit following documents before admission in 2nd Semester of M.A. English:-

- a. Matriculation certificate
- b. Hr. Secondary Certificate
- c. Graduation Certificate
- d. M.A. English Ist Semester mark sheet issued by University of Delhi
- e. Category Certificate, if any

This issues with the approval of the Vice Chancellor.

(Dr. Ravi Kumar)

(कुलसचिव)

Registrar

Ph: 9780833839

email: registraruj@cujammu.ac.in

Copy to:-

1. Dean, School of Languages
2. Head, Dept. of English
3. I/c Controller of Examinations
4. P.S to VC
5. P.S to Registrar / Finance Officer

approval of the Honble Vice Chancellor

बसन्त कश्यप प्रिंसिपल



15

जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu

राया - सूचानी (बागला), जिला सांबा - 181143, जम्मू (जम्मू एवं कश्मीर)
Rahya - Suchani (Bagla), District: Samba - 181143, Jammu (J&K)

संख्या: CUJ/Acad/Eng-Mug/2020/48

11 फरवरी, 2020

NO OBJECTION CERTIFICATE

Pursuant to request of **Ms. Muskan Gupta** D/o Late Sh. Sanjay Gupta and approval of the Hon'ble Vice-chancellor as a special case; (in exercise of powers vested by Clause 11(3), Central Universities Act, 2009): the University has no objection to admit Ms. Muskan Gupta as a special case from Sri Venkateswara College, University of Delhi in 2nd Semester, M.A. English in Department of English, Central University of Jammu subject to following conditions of Ordinance No. 42 :-

1. Student shall have to submit Migration / No Objection Certificate from University of Delhi
2. A certificate from the Principal of the College / Head of the Department last attended by her, testifying the record of attendance, conduct of the student
3. Payment of Admission Fee as prescribed by Central University of Jammu

Ms. Muskan Gupta shall submit following documents before admission in 2nd Semester of M.A. English:-

- a. Matriculation certificate
- b. Hr. Secondary Certificate
- c. Graduation Certificate
- d. M.A. English Ist Semester mark sheet issued by University of Delhi
- e. Category Certificate, if any
- f. Undertaking to abide by the decision of the Central University of Jammu, Academic Council in the case

This issues with the approval of the Vice Chancellor.

(Dr. Ravi Kumar)

(कुलसचिव)

Registrar

Ph: 9780833839

email: registrar@ujammu.ac.in

Copy to:-

1. Dean, School of Languages
2. Head, Dept. of English
3. In-charge Controller of Examinations
4. P.S to VC
5. P.S to Registrar / Finance Officer



Department of English
Central University of Jammu

Ref no.: CUJ/Eng/2020/L/L

Date: 21/01/2020

Observations of the Committee constituted for the Credit Equivalence vide no.

CUJ/ENG/2020/38 dated : 20/01/2020:

a) The Candidate Ms. Muskan Gupta has submitted an application for acceptance of Credit transfer from Delhi University, Sr. Venkateswara College which is recognised under section B of the UGC Act and is a member of Association of Indian Universities.

Therefore, as per Ordinance 49 point no.5 - a & b ,though there exists no MOU between Delhi University and Central University of Jammu, yet on compassionate grounds and as per rule position the case may be considered.

Recommendations of the Credit Equivalence Committee :

Regarding the credit transfer of M A English Semester I of Delhi University .the following recommendations are made:

- a) The candidate had qualified the CUCET Exam and her name appeared in the 1st Admission List at rank 4.
- b) The total no. of credits earned in semester I are similar in both Delhi University and CUJ. which are 20.
- c) In view of the Course Equivalence, the committee holds the view that the candidate has an edge since she has done B. A Honours and therefore, has already studied the *Foundation and British Literature* Courses taught in M A English Semester I at the Central University of Jammu.
- d) However, the candidate must study one course "*Literary Criticism*" during semester III when the course is taught at Semester I level.

Parveen
21/01/2020
Dr. Parveen Kumari

12th JAN. 2020
Dr. Raj Thakur

Dr. Neena Gupta Vij

Dr. Vandana Sharma (Head)
21st Jan. '2020

Prof. Rasal Singh (Dean)
21/1/2020

AR (Academics)

Acad-26
21/01/2020



Department of English
Central University of Jammu

Ref no.: CUJ/Eng/2019/38

Date: 20/01/2020

Subject: Constitution of the Committee for Credit Equivalence

The following Committee is proposed to be constituted for the credit equivalence with reference to the application submitted by Ms. Muskan Gupta for transfer of credits from University of Delhi to Central University of Jammu to pursue her M A English from II semester from CUJ.

Prof. Rasal Singh	Dean, School of Languages
Dr. Vandana Sharma	Head, Department of English
Dr. Neena Gupta Vij	Member
Dr. Raj Thakur	Member
Dr. Parveen Kumari	Member

Rasal Singh
21/1/2020

Prof. Rasal Singh
Dean, School of Languages

Vandana Sharma
20th Jan. 2020

Dr. Vandana Sharma
Head
Department of English

4.-CUJ/ET/1
2020/19
Date:- 14/01/2020

As per Ordinance NO. 47, re.5 prevailing policy for accepting Credit Transfer from other Universities the case of candidate is recommended as per rule position & on compassionate grounds.

HOD English
Central University of Jammu
Jammu

Dean
17/1/20

13th Jan '20

Sub: Request for Admission

Madam

With deep regards, I put a request before your office to give a compassionate hearing to my case.

Mam, it is very very unfortunate that I lost my father in a sudden cardiac arrest on 30th Dec., 2019. Within ten minutes this whirlpool engulfed my family's only support. Now, there are only two people left, my mother and my grandmother, to pull their lives onwards.

It is my humble request to consider my case for admission to 2nd semester of P.G. English at your university.

Mam, I am already persuing P.G.English at Delhi University in Sri Venkateswara College and I have successfully written the 1st semester end exam in December, 19.(result awaited)

Further, I want to convey, very humbly, that I had cleared the English PG entrance exam of central university Jammu and was declared as 4th ranker in the merit list (proof attached). I took the admission also and had completed all the procedural formalities of the admission.

But, later I got myself enrolled with Delhi University

Destiny has, perhaps, written it otherwise.

Madam, it is a very humble request to give a compassionate hearing to my case, as, I am the only person to support my family in this distress.

Hoping for a favourable response.

Yours faithfully,

Muskan

Muskan Gupta.

CENTRAL UNIVERSITY OF JAMMU

Provisional List of Registered Candidates Eligible to be Considered for Admission - 2019

Course: M.A. English

S. No.	Form Number	Name of Candidate	Roll Number	CUCET Score
1	PG20058152	DRISHPIKA TIWARI	21760319	44.75
2	PG20003738	ISHA BHARATI PANDIT	21471358	37.75
3	PG20073220	SAKSHI KANCHRU	21470567	37.00
4	PG20029659	MUSKAN GUPTA	21470493	36.50
5	PG20066564	GHULAM MURTAZA	21470566	36.00
6	PG20059184	HIMALINI SINGH	21470559	35.00
7	PG20079647	TAHIR MUSHTAQ KHAN	21760307	35.00
8	PG20054216	MARUKH SHARIEF	21470591	34.50
9	PG20066681	RAJNI DEVI	21470595	33.25
10	PG20065094	RABINA KOUSAR	21470563	32.25
11	PG20017753	MANPREET KOUR	21470776	29.25
12	PG20045177	ADITI SHARMA	21470494	29.25
13	PG20021579	SWATI CHOUDHARY	21470677	28.50
14	PG20056758	DIKSHA LANGEH	21470536	28.50
15	PG20054122	SHIVANI PATHANIA	21890148	28.25
16	PG20064872	SHAZIA MALIK	21470555	28.00
17	PG20011992	RAJ SINGH	21330004	28.00
18	PG20018846	RIFAT QADIR BHAT	21471346	26.75
19	PG20059638	TAJINDER KOUR	21890125	26.25
20	PG20053765	VISHAL KUMAR	21470576	26.00
21	PG20060747	MAVNEET KOUR	21471281	25.25
22	PG20045076	MINAKSHI RAJPUT	21471000	25.00
23	PG20038165	AB RAOUF MALIK	21970599	24.50
24	PG20069950	HITAKSHI GUPTA	21471176	24.25
25	PG20072556	IBTASAM RASHID CHOUDHARY	21471317	24.25
26	PG20062704	PRINCE	21550207	24.25
27	PG20042557	WASIM AKRAM	21470772	24.00
28	PG20043714	SUMATI BAWA	21471097	24.00
29	PG20068897	PRIYA DEVI	21550208	23.00
30	PG20043750	RAJAT KUMAR	21550273	23.00
31	PG20026784	MANISHA RANI	21471267	22.75

List of Registered Candidates..... Central University of Jammu..... Admissions 2019

Page 1 of 16

Please Note: This List does not entitle a candidate for Admission at Central University of Jammu. Admission shall be subject to Online Document Verification, Department Eligibility Condition and Payment of Prescribed Course Fee...

Candidates are Advised to check their Registered Log In of Central University of Jammu for Admission and Online Payment Links.....



University of Delhi

Examination Branch
Semester Exam (Nov-Dec 2019)

Admit Card

Date of Printing: 18 Nov 2019

Exam Roll no : 19079708012

Enrollment No.

Name : MUSKAN GUPTA

: मुस्कान गुप्ता

Gender : F

Date of Birth : 19 Jul 1998

Father's Name : SANJAY GUPTA

: संजय गुप्ता

Mother's Name : N

Course Name : (CBCS_PG) M.A. ENGLISH

College Name : Sri Venkateswara College

Part: I Sem: I College Roll no.: 12

Student Type: REG



Part	Sem	Paper Code	Paper Name	Pap. Type	Desc. Flag
I	I	120301101	Life, Literature and Culture I Medieval Literature	CORE	NA
I	I	120301102	Life, Literature and Culture II Early Modern World	CORE	NA
I	I	120302101	Classical to Pre-modern Literatures	ELECTIVE	NA
I	I	120302104	Politics, Literature and Philosophy	ELECTIVE	NA

1. In case of any discrepancy please contact the office of the college. Mobile Phone are not allowed in Exam. Hall.
2. Candidate must reach the examination centre atleast half an hour before the commencement of the examination. Candidate will not be allow to enter into the exam hall after half an hour of the commencement of the examination.
3. No candidate shall be allowed to leave the examination hall before half an hour of the commencement of the examination.

Signature of Principal

Vinay Gupta

Prof. Vinay Gupta
Dean (Examinations)

I have checked my all above
Personal and Papers Details.

Signature of Student

Respected Ma'am,

- Ms. Muskan Gupta has studied at P.G. Eng Sem I :-

1. Life literature and culture - I medieval literature	CORE COURSE	Credits $4+1=05$
2. Life literature and Culture - II Early Modern World	CORE COURSE	$4+1=05$
3. CLASSICAL TO PRE MODERN LITERATURES	ELECTIVE	$4+1=05$
4. POLITICS LITERATURE & PHILOSOPHY	ELECTIVE	$4+1=05$
Total Credits		<hr/> <u>20</u>

As per the course credit scheme of Delhi University (copy attached)
Every student pursuing P.G. Eng has to study in Sem. I
two Core Courses and two elective courses each bearing
10 credits and thus earning 20 credits in Sem. I.

Regards


Prof. Minus Mahajan

The English programme is a two-year course divided into four-semesters. A student is required to complete 83 credits for the completion of course and the award of degree.

Course Credit Scheme

Semester	Core Courses			Elective Course			Open Elective Course			Total Credits
	No. of papers	Credits (L+T/P)	Total Credits	No. of papers	Credits (L+T/P)	Total Credits	No. of papers	Credits (L+T/P)	Total Credits	
I	02	(4+1) x 2	10	02	(4 + 1) x 2	10	Nil			20
II	02	(4+1) x 2	10	02	(4 + 1) x 2	10	01	4 x 1	4	24
III	02	(4+1) x 2	10	02	(4 + 1) x 2	10	Nil			20
IV	02	(4+1) x 2	10	01	5 x 1 = 5	5	01	4 x 1	4	19
Total Credits for the Course			40			35			08	83

Semester I/II/III/IV (individually for each semester)

Number of core courses		Credits in each core course			
Course		Theory	Practical	Tutorial	Credits
Core course 1		4		1	5
Core course 2		4		1	5
Core course 3		4		1	5
Core Course 4		4		1	5
Core Course 5		4		1	5
Core Course 6		4		1	5
Core Course 7		4		1	5
Core Course 8		4		1	5
Total credits in core course		40			

Number of elective courses	Credits in each Elective course			
	Theory	Practical	Tutorial	Credits
Elective course 1	4		1	5
Elective course 2	4		1	5
Elective course 3	4		1	5
Elective course 4	4		1	5
Elective course 5	4		1	5
Elective course 6	4		1	5
Elective course 7	4		1	5
Total Credits in Elective Courses	35			
Number of Open Electives	Credits in each open elective.			
	Theory			Credits
Open Elective 1	4			4
Open Elective 2	4		4	
Total credits in Open Elective	08			
Total credits in Semester I/II/III/IV 83				

* For each Core and Elective Course there will be 4 lecture hours of teaching per week.

* Open Electives to the maximum total of 8 credits.

* Duration of examination of each paper shall be 3 hours.

* Each paper will be of 100 marks out of which 70 marks shall be allocated for semester examination and 30 marks for internal assessment.



Department of English
Central University of Jammu

Ref no : CUJ Eng 2020 4/4

Date: 21/01/2020

Observations of the Committee constituted for the Credit Equivalence vide no.

CUJ/ENG/2020/38 dated : 20/01/2020:

a) The Candidate Ms. Muskan Gupta has submitted an application for acceptance of Credit transfer from Delhi University, Sr. Venkateswara College which is recognised under section B of the UGC Act and is a member of Association of Indian Universities.

Therefore, as per Ordinance 49 point no.5 - a & b, though there exists no MOU between Delhi University and Central University of Jammu, yet on compassionate grounds and as per rule position the case may be considered.

Recommendations of the Credit Equivalence Committee :

Regarding the credit transfer of M A English Semester I of Delhi University the following recommendations are made:

- a) The candidate had qualified the CUCET Exam and her name appeared in the 1st Admission List at rank 4.
- b) The total no. of credits earned in semester I are similar in both Delhi University and CUJ, which are 20.
- c) In view of the Course Equivalence, the committee holds the view that the candidate has an edge since she has done B. A Honours and therefore, has already studied the *Foundation and British Literature* Courses taught in M A English Semester I at the Central University of Jammu.
- d) However, the candidate must study one course "*Literary Criticism*" during semester III when the course is taught at Semester I level.

Parveen
21/01/2020

Dr. Parveen Kumari

21st Jan 2020

Dr. Raj Thakur

Neena Gupta
21/01/2020

Dr. Neena Gupta

Vandana Sharma
21st Jan 2020

Dr. Vandana Sharma (Head)

Raj Singh
21/1/2020

Prof. Raj Singh, Dean

AR (Academics)

Course Wise Content Details for M.A English Programme

MASTER of ARTS (ENGLISH)

Semester I

Core: Life, Literature and Culture I Medieval Literature

Marks 70

Duration 03 hours

Course Objectives

1. To explain how Medieval modes of thought give way to the rise of early modernity.
2. To understand the early developments of modes of representation.

Course Learning Outcomes

1. An understanding of what constitutes Medievalism will have been established.
2. The foundations of representation and genre will also have been established.

Contents

Unit I Marie de France, *Lais* ('Guigemar' and 'Equitan')

Thomas Malory, *Morte de Artur*

Book I: "From the Marriage of King Uther unto King Arthur that Reigned After Him and Did Many Battles & Book VII: "Sir Lancelot and Queen Guinevere."

Nigel de Longchamps, *A Mirror of Fools*

Geoffrey Chaucer, 'The Wife of Bath's Prologue and Tale', 'The Nun's Priest's Tale'.

Unit II "Wakefield Master", *The Second Shepherd's Play*

Unit III William Langland, *Piers Plowman*

Unit IV Letter, Treatises and autobiographies

Letters of Abelard and Heloise

Andreas Capellanus, *De Amore*

The Book of Margery Kempe

Suggested Readings Derek Brewer, C S Lewis, Umberto Eco

Teaching Plan

Week 1: Introduction to Unit I

Week 2: Textual Analysis of Marie de France

Week 3: Textual Analysis of Malory

Week 4: Textual Analysis of *A Mirror of Fools*

Week 5: Introduction to Unit II

Week 6: Medieval theatre and prescribed plays

Week 7: Introduction to Unit III

Week 8: Textual Analysis of Langland

Week 9: Introduction to Unit IV

Week 10: Textual Analysis of *Abelard and Heloise*

Week 11: Medieval mysticism

Week 12: Textual Analysis of *De Amore*

Week 13: Textual Analysis of *The Book of Margery Kempe*

Week 14: Conclusion

MASTER of ARTS (ENGLISH)
Semester I

Elective: Classical to Pre-modern Literatures

Marks 70

Duration 03 hours

Course Objectives

1. To introduce the students to ideas of classicism across languages and regions.
2. To open the argument to include the pre-modern world.

Course Learning Outcomes

1. Students will have gained theoretical knowledge of different definitions of antiquity
2. Students will have gained a sense of how antiquity moves through to the pre-modern

Contents

Unit 1 Aeschylus's *The Oresteia*

Thucydides's *From A History of the Peloponnesian War*

Unit 2 Bhasa's *Svapna-vasavadattam* or, *The Vision of Vasavadatta*

Anandavardhana's 'The First Flash'

Unit 3 From Horace, Juvenal and Marcus Aurelius

- Unit 4 Imru al Qais : *The Muallaqa*
Moulana Jalauddin Rumi : *Out beyond the ideas of wrongdoing and rightdoing, If everyone could see what love is, In slaughterhouse of love, Separation, Candlelight becomes moth*
Amir Khurso : *A Tale of Four Darvesh (selections), Come Colour me in your hue, The Fine Lads of Delhi*
Hasan Shah : *The Nautch Girl*
Mirza Muhammad Rafi : *Qasida-e- Shahrashob* (Trans. Mark Pegor)
Quli Qutub Shah : *Without my Love, Let us celebrate basant, My Birthday*

Suggested Readings Paul Smith, Robert Erwin, Keith, A J Arberry

Teaching Plan

- Week 1: Introduction to Aeschylus
Week 2: Textual Analysis of *The Oresteia*
Week 3: Introduction to Thucydides
Week 4: Textual Analysis of *A History of the Peloponnesian*
Week 5: Introduction to Bhasa
Week 6: Textual Analysis of *Svapna-vasavadattam*
Week 7: Anandvardhana
Week 8: Roman Satire and Satirists
Week 9: Textual Analysis of Prescribed writers
Week 10: Introduction of Imru al Qais, Rumi
Week 11: Khurso and Shah
Week 12: Shah, Rafi and Quli Qutub Shah

MASTER of ARTS (ENGLISH)

Semester I

Elective: Aesthetics and Literature

Marks 70

Duration 03 hours

Course Objectives

1. An interdisciplinary understanding of the fields indicated in the title.
2. An understanding of the principles of critical analysis in the shaping of the literature.

Course Learning Outcomes

1. A foundational competence in the basic principles involved in this kind of interdisciplinary study.
2. A basic fluency in the language and principles of critical analysis.

Contents

Unit I Foundational Texts I

Longinus, On the Sublime

Johann Joachim Winckelmann, Reflections on the Imitation of Greek Works in Painting

Rabindranath Tagore, from Sadhana

Immanuel Kant, from *Critique of Judgment*

Edmund Burke, *Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*

Friedrich Schiller, *On the Aesthetic Education of Man*

Krishna Chandra Bhattacharya, *The Concept of Rasa*

Ananda Coomaraswamy, Figures of Speech or Figures of Thought/ *The Dance of Shiva*

Arindam Chakraborty, *Refining the Repulsive: Toward an Indian Aesthetics of the Ugly and the Disgusting*

Unit II Defining Form

Walter Pater, from *The Renaissance*

Arthur Danto, from *The Transfiguration of the Commonplace*

Roger Scruton, *Art and Imagination*

Maurice Merleau Ponty, from *The Visible and the Invisible*

Susan Langer, *Feeling and Form*

Jacques Ranciere, from *Aesthetics and Its Discontents*

Unit III Aesthetics and the Social

Mikhail Bakhtin, "Author and Hero in Aesthetic Activity," *Art and Answerability: Early*

Philosophical Essays

Filippo Marinetti, *Futurist Manifesto*

Terry Eagleton, *The Ideology of Aesthetics*

Elaine Scarry, from *On Beauty and Being Just*

Gopal Guru, *Aesthetics of Touch and Skin: An Essay in Contemporary Indian Political*

Phenomenology

Tridip Suhrud, *Towards a Gandhian Aesthetics*

MASTER of ARTS (ENGLISH)

Semester I

Elective: Poetry I

Marks 70

Duration 03 hours

Course Objectives

1. To uncover the radical potential of poetry.
2. To lay the foundations of genre based study embedded in historical context.

Course Learning Outcomes

1. A foundational level of fluency with the basics of poetry will have been achieved.
2. A basic understanding of strategies of poetic organisation will have been laid down.

Contents

Unit I Lyric Poetry

Sappho, Fragment 31

Robert Burns, 'John Anderson My Jo', 'A Red Red Rose'

T. E. Hulme, Embankment

Bob Dylan, Visions of Johanna, Like a Rolling Stone

Ann Carson; Apostle Town

Selections from Ghalib, Mir Taqi Mir, Firaq Gorakhpuri

Unit II Meditative Poetry

Henry Vaughan, The Retreat

Hopkins, Windhower, The Candle Indoors

Friedrich Holderlin, The Course of Life

Rabindranath Tagore, Aguner Paroshmoni (The Philosopher's Stone of Fire)

Seamus Heaney, Digging

Lal Ded: Poems: 'I will weep and weep for you, my Soul', 'My Guru gave me but one precept', 'When can I break the bonds of shame?', 'Who can stop the eaves' drip during the frost?', 'Thou art the earth, Thou art the sky', 'Hoping to bloom like a cotton flower'

Unit III Ballad

Goethe, Erlkonig

From Bishop Percy's Reliques, The Ballad of Chevy Chase

--The Wife of Usher's Well

Coleridge, The Rime of the Ancient Mariner

The Ballad of John Henry (Blues Ballad)

UNIT IV Elegy

Catullus, Carmen 101

Alphonse De Lamartine, The Lake

John Donne, The Autumnal (Elegy IX)

Ben Jonson, Elegy on His Son

Alfred Tennyson, Break, Break, Break

W.B. Auden, In Memory of W. B. Yeats

Selections from Marsiya, Sher Ashob

MASTER of ARTS (ENGLISH)

Semester I

Elective: Politics, Literature and Philosophy

Marks 70

Duration 03 hours

Course Objectives

1. To amalgamate the three strands politics, literature and philosophy.
2. To understand the principles of interdisciplinary study with regard to the three disciplines mentioned in the title.

Course Learning Outcomes

1. The students will have achieved a basic understanding of the common principles underlined these three disciplines
2. A basic understanding of the intermingling of the philosophies of literature and politics will have been established.

Contents

Unit I Selections from Plato, Machiavelli, and Hobbes

Unit II Selections from Dante's *Divine Comedy*,

Commentaries on the Gita by M.K. Gandhi and B.R. Ambedkar

Unit III Shakespeare's *Richard III*

Unit IV Selections from Martin Luther King and Malcolm X

Hansda Sowvendra Shekhar's *The Adivasi Will Not Dance*

Suggested Readings Quintin Skinner, Srinivas Iyengar, Derek Traversi, and G N Devy

Teaching Plan

Week 1: Reading of foundational texts

Week 2: Defining political across cultural studies

Week 3: Reading literature as politics I: history, strategy and intrigue in unit II

Week 4: Reading literature as politics II: loss, victory and language in unit II

Week 5: Strategies of political survival in unit III

Week 6: Politics and theatre in unit III

Week 7: The question of Political ethics I: Classical Europe

Week 8: The question of Political ethics II: Early Modern India

Week 9: Literature and the margins I

Week 10: Literature and the margins II

Week 11: Marginality and speech making

Week 12: Marginality and short fiction

Week 13: Strategy and literature

Week 14: Conclusion

Unit IV Art Practice

Selected Letters of John Keats Lucy Aikin

Mukund Lath, Thoughts on Svara and Rasa: Music as Thinking/Thinking as Music

Benodbehari Mukhopadhyaya, The Artist Realizing the Body in Movement: Gestures of Freedom in the Dance Aesthetics of Rabindranath Tagore, Satyajit Ray and Kumar Shahani.

Suggested Readings Ernst Gombrich, Ananda Coomaraswamy, Norman Bryson, and Naomi Woolf

Teaching Plan

Week 1: Laying of foundational principles

Week 2: The sublime and The Beautiful

Week 3: Definitions of form

Week 4: The 19th and early 20th century in western Europe

Week 5: Aesthetics and the social world

Week 6: The Middle 20th century in western world

Week 7: The Middle 20th century in India

Week 8: Aesthetics and politics

Week 9: The late 20th century in India

Week 10: The theory and practice of art

Week 11: The body in performance

Week 12: Application to visual possibility.

Week 13: Movement and freedom in theory

Week 14: Conclusion

Suggested Readings

- Rene Wellek, Genre Theory, The Lyric and Erlebnis
- Susan Stewart, from Poetry and the Fate of Senses (Introduction and Chapter I)
- Aamir Mufti, Towards A Lyric History of India
- Loius Martz, The Poetry of Meditation
- Martin Heidegger, Poetically, Man Dwells
- Plato, Ion
- David Buchan, from Ballad and the Folk
- Susan Manning, Antiquarianism, Balladry, and the Rehabilitation of Romance.
- Peter Sacks, English Elegies
- Jahan Ramzani, Poetry of Mourning, The Modern Elegy from Hardy to Heaney
- W.E. B. Du Bois, The Sorrow Songs (Chapter VII, The Souls of Black Folks)

Teaching Plan

- Week 1: Possibilities of poetry
- Week 2: Introduction to Lyric Poetry
- Week 3: Textual analysis of all poem in the unit I
- Week 4: Textual analysis of all poem in the unit I
- Week 5: Introduction to meditative poetry
- Week 6: Textual analysis of all poem in the unit II
- Week 7: Textual analysis of all poem in the unit II
- Week 8: Introduction to Ballad
- Week 9: Textual analysis of all poem in the unit III
- Week 10: Textual analysis of all poem in the unit III
- Week 11: Introduction to Elegy
- Week 12: Textual analysis of all poem in the unit IV
- Week 13: Textual analysis of all poem in the unit III
- Week 14: Conclusion

Course Objectives

This course will familiarise students with the Early Modern World, earlier called the Renaissance, through poetry, fiction and philosophy.

1. The individual gained centrality in this modern World, earlier tempered by science and philosophy.

2. Discuss religious faith vs scepticism, rise of science, burgeoning imperialism.

3. Discuss religious faith vs scepticism, rise of science, burgeoning imperialism.

Europe:

2. Discuss religious faith vs scepticism, rise of science, burgeoning imperialism.

Contents

Unit I Thomas More: *Utopia*

Erasmus: *Adagia* (Selections)

Unit II Edmund Spenser: April Eclogue *Shepherd's Calendar*

Letter to Raleigh

The Faerie Queene Books 3 and 6

Baldassare Castiglione *The Book of the Courtier* (Selections)

Unit III Michel de Montaigne: *Apology for Raymond Sebond* (Selections)

William Shakespeare: Sonnets 18, 29, 75, 94, 110, 129, 130, 138

Metaphysical Poetry: Selections from John Donne, Andrew Marvell, George Herbert

Unit IV Charles I: *Eikon Basilike*

John Milton: *Paradise Lost* Books 1-4, 9-10

Gerard Winstanley: 'The Law of Freedom'

Suggested Readings Christopher Hill, Helen Vendler, Jean Starobinski, Stephen Greenblatt, Louis Adrian Montrose, Edward Saccone

Teaching Plan

Week 1: More

Week 2: More

Week 3: More + Erasmus

Week 4: Spenser

Week 5: Spenser + Castiglione

Week 6: Montaigne + Shakespeare sonnets

Week 7: Metaphysical Poets

Week 8: Metaphysical Poets

Week 9: Metaphysical Poets

Week 10: Milton

Week 11: Milton

Week 12: Winstanley

Week 13: *Eikon Basilike*

Week 14: Winstanley



Department of English
Central University of Jammu

Ref no : CUJ/Eng/2020/L/L

Date: 21/01/2020

Observations of the Committee constituted for the Credit Equivalence vide no.

CUJ/ENG/2020/38 dated : 20/01/2020:

a) The Candidate Ms. Muskan Gupta has submitted an application for acceptance of Credit transfer from Delhi University, St. Venkateswara College which is recognised under section B of the UGC Act and is a member of Association of Indian Universities.

Therefore, as per Ordinance 49 point no.5 - a & b though there exists no MOU between Delhi University and Central University of Jammu, yet on compassionate grounds and as per rule position the case may be considered.

Recommendations of the Credit Equivalence Committee:


Regarding the credit transfer of M. A English Semester I of Delhi University the following recommendations are made:

a) The candidate had qualified the CLCEA Exam and her name appeared in the 1st Admission List at rank 4.

b) The total no. of credits earned in semester I are similar in both Delhi University and CUJ which are 20.

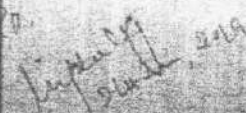
c) In view of the Course Equivalence, the committee holds the view that the candidate has an edge since she has done B. A Honours and therefore, has already studied the *Foundation and British Literature* Courses taught in M.A English Semester I at the Central University of Jammu.

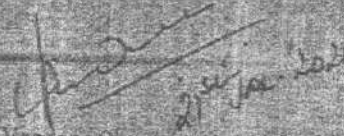
d) However, the candidate must study one course "*Literary Criticism*" during semester III when the course is taught at Semester I level.


Dr. Parvot Kumar

Dr. Rajinder

21 JAN 2020


Muskan Gupta


Dr. Varnana Sharma (Head)


Prof. Rasool Singh (Dean)

AR (Academic)

Division of Degree into Classes

Post Graduate degree to be classified based on CGPA obtained into various classes as notified into Examination policy.

Attendance Requirement

As per existing university norms

No student shall be admitted as a candidate for the examination for any of the Parts/Semesters after the lapse of **four** years from the date of admission to the Part-I/Semester-I of the English Programme.

Guidelines for the Award of Internal Assessment Marks English Programme (Semester Wise)

As per existing guidelines where the department is responsible for assessing a thousand words essay per student per course for 25 marks, with 5 marks per student per course being the responsibility of the concerned colleges. All essays submitted for evaluation will need to be put through **Turnitin / comparable software** to guard against plagiarism. An essay that shows an Plagiarism score of 20% or more is liable to be awarded no marks at all, at the discretion of IA committee.

Respected Madam

There is some parity between the courses offered by ^{central} ~~classical~~ university of Jammu in P.G. Sem I and the courses studied by Mr. Muskan Gupta at undergraduate level in Delhi University.

Kindly look into the following detail :

per. No.	Paper Name	Details of Paper	Course Type	Course Credits	Credit points earned as per marks card
4	BRITISH POETRY & DRAMA 14th to 17th Century	Christopher Marlowe: Doctor Faustus	CORE	06	48
1	BRITISH ROMANTIC LITERATURE	William Wordsworth Tintern Abbey Ode: Intimations of immortality JOHN KEATS Ode to a nightingale To Autumn 'Don't first look into Chapman's Homer'	CORE	06	48
1	BRITISH LITERATURE 19th Century	JANE AUSTEN: Pride & Prejudice CHARLOTTE BRANTÉ Jane Eyre CHARLES DICKENS: Hard Times ROBERT BROWNING: My last Duchess	CORE	06	42

Paper No.	Paper Name	Details of Paper	COURSE TYPE	COURSE CREDITS	Credit Points Score of (as per marks card)
12.	BRITISH LITERATURE The early 20 th Century	Virginia Woolf Mrs. Dalloway W.B. Yeats: The Second Coming T.S. Eliot The Love Song of J. Alfred Prufrock Sweeney among the Nightingales	CORE	06	48
13.	MODERN EUROPEAN DRAMA	Samuel Beckett: 'Waiting for Godot'	CORE	06	47

DEPARTMENT OF ENGLISH
UNIVERSITY OF DELHI
DELHI - 110007.



Structure of BA Honours English
English for BA/ BCom/BSc Programme
and
English for BA(H)/BCom(H)/BSc (H)
under Choice Based Credit System (CBCS)

Syllabus applicable for students seeking admission to the

*BA Honours English, BA/BCom/BSc Programme and
BA(H)/BCom(H)/BSc(H) and under CBCS
w.e.f. the academic year 2015-16*

*U. S. Choudhary
22 June 2017*

Themes and Contexts of the Indian English Novel
 The Aesthetics of Indian English Poetry
 Modernism in Indian English Literature

Readings

1. Raja Rao, Foreword to *Kanthapura* (New Delhi: OUP, 1989) pp. v-vi.
2. Salman Rushdie, 'Commonwealth Literature does not exist', in *Imaginary Homelands* (London: Granta Books, 1991) pp. 61-70.
3. Meenakshi Mukherjee, 'Divided by a Common Language', in *The Perishable Empire* (New Delhi: OUP, 2000) pp. 187-203.
4. Bruce King, 'Introduction', in *Modern Indian Poetry in English* (New Delhi: OUP, 2nd edn, 2005) pp. 1-10.

Paper 4: British Poetry and Drama: 14th to 17th Centuries

1. Geoffrey Chaucer: *The Wife of Bath's Prologue*
 Edmund Spenser Selections from *Amoretti*:
 Sonnet LXVII 'Like as a huntsman...'
 Sonnet LVII 'Sweet warrior...'
 Sonnet LXXV 'One day I wrote her name...'
 John Donne: 'The Sunne Rising'
 'Butter My Heart'
 'A Valediction: Forbidding Mourning'
2. Christopher Marlowe: *Doctor Faustus*
3. William Shakespeare: *Macbeth*
4. William Shakespeare: *Twelfth Night*

Suggested Topics and Background Prose Readings for Class Presentations

Topics

Renaissance Humanism
 The Stage, Court and City
 Religious and Political Thought
 Ideas of Love and Marriage
 The Writer in Society

Readings

1. Pico Della Mirandola, excerpts from the *Oration on the Dignity of Man*, in *The Portable Renaissance Reader*, ed. James Bruce Ross and Mary Martin McLaughlin (New York: Penguin Books, 1953) pp. 476-9.
2. John Calvin, 'Predestination and Free Will', in *The Portable Renaissance Reader*, ed. James Bruce Ross and Mary Martin McLaughlin (New York: Penguin Books, 1953) pp. 704-11.

Paper 9: British Romantic Literature

1. William Blake 'The Lamb',
'The Chimney Sweeper' (from *Songs of Innocence and of Songs of Experience*)
'The Tyger' (*Songs of Experience*)
'Introduction' to *Songs of Innocence*
Robert Burns 'A Bard's Epitaph'
'Scots Wha Hae'
2. William Wordsworth 'Tintern Abbey'
'Ode: Intimations of Immortality'
Samuel Taylor Coleridge 'Kubla Khan'
'Dejection: An Ode'
3. Lord George Gordon
Noel Byron 'Childe Harold': canto III, verses 36–45
(lines 316–405); canto IV, verses 178–86
(lines 1594–674)
Percy Bysshe Shelley 'Ode to the West Wind'
'Ozymandias'
'Hymn to Intellectual Beauty'
John Keats 'Ode to a Nightingale'
'To Autumn'
'On first Looking into Chapman's Homer'
4. Mary Shelley *Frankenstein*

Suggested Topics and Background Prose Readings for Class Presentations
Topics

Reason and Imagination
Conceptions of Nature
Literature and Revolution
The Gothic
The Romantic Lyric

Readings

1. William Wordsworth, 'Preface to Lyrical Ballads', in *Romantic Prose and Poetry*, ed. Harold Bloom and Lionel Trilling (New York: OUP, 1973) pp. 594–611.
2. John Keats, 'Letter to George and Thomas Keats, 21 December 1817', and 'Letter to Richard Woodhouse, 27 October, 1818', in *Romantic Prose and Poetry*, ed. Harold Bloom and Lionel Trilling (New York: OUP, 1973) pp. 766–68, 777–8.
3. Jean-Jacques Rousseau, 'Preface' to *Emile or Education*, tr. Allan Bloom (Harmondsworth: Penguin, 1991).
... Samuel Taylor Coleridge, *Biographia Literaria*, ed. George Watson (London: Everyman, 1993) chap. XIII, pp. 161–66.

Paper 10: British Literature: 19th Century

1. Jane Austen *Pride and Prejudice*
2. Charlotte Brontë *Jane Eyre*
3. Charles Dickens *Hard Times*
4. Alfred Tennyson 'The Lady of Shalott'
'Ulysses'
'The Defence of Lucknow'
Robert Browning 'My Last Duchess'
'The Last Ride Together'
'Fra Lippo Lippi'
Christina Rossetti 'The Goblin Market'

Suggested Topics and Background Prose Readings for Class Presentations Topics

Utilitarianism
The 19th Century Novel
Marriage and Sexuality
The Writer and Society
Faith and Doubt
The Dramatic Monologue

Readings

1. Karl Marx and Friedrich Engels, 'Mode of Production: The Basis of Social Life', 'The Social Nature of Consciousness', and 'Classes and Ideology', in *A Reader in Marxist Philosophy*, ed. Howard Selsam and Harry Martel (New York: International Publishers, 1963) pp. 186-8, 190-1, 199-201.
2. Charles Darwin, 'Natural Selection and Sexual Selection', in *The Descent of Man in The Norton Anthology of English Literature*, 8th edn, vol. 2, ed. Stephen Greenblatt (New York: Norton, 2006) pp. 1545-9.
3. John Stuart Mill, *The Subjection of Women* in *Norton Anthology of English Literature*, 8th edn, vol. 2, ed. Stephen Greenblatt (New York: Norton, 2006) chap. 1, pp. 1061-9.

Paper 11: Women's Writing

1. Emily Dickinson 'I cannot live with you'
'I'm wife; I've finished that'
Sylvia Plath 'Daddy'
'Lady Lazarus'
Eunice De Souza 'Advice to Women'
'Bequest'
2. Alice Walker *The Color Purple*

3. Charlotte Perkins Gilman 'The Yellow Wallpaper'
Katherine Mansfield 'Bliss'
Mahashweta Devi 'Draupadi', tr. Gayatri Chakravorty Spivak (Calcutta: Seagull, 2002)
4. Mary Wollstonecraft *A Vindication of the Rights of Woman* (New York: Norton, 1988) chap. 1, pp. 11-19; chap. 2, pp. 19-38.
Pandita Ramabai 'A Testimony of our Inexhaustible Treasures', in *Pandita Ramabai Through Her Own Words: Selected Works*, tr. Meera Kosambi (New Delhi: OUP, 2000) pp. 295-324.
Rassundari Debi Excerpts from *Amar Jiban* in Susie Tharu and K. Lalita. eds., *Women's Writing in India*, vol. 1 (New Delhi: OUP, 1989) pp. 192-202

Suggested Topics and Background Prose Readings for Class Presentations Topics

The Confessional Mode in Women's Writing
Sexual Politics
Race, Caste and Gender
Social Reform and Women's Rights

Readings

1. Virginia Woolf, *A Room of One's Own* (New York: Harcourt, 1957) chaps. 1 and 6.
2. Simone de Beauvoir, 'Introduction', in *The Second Sex*, tr. Constance Borde and Shiela Malovany-Chevallier (London: Vintage, 2010) pp. 3-18.
3. Kurnkum Sangari and Sudesh Vaid, eds., 'Introduction', in *Recasting Women: Essays in Colonial History* (New Delhi: Kali for Women, 1989) pp. 1-25.
4. Chandra Talapade Mohanty, 'Under Western Eyes: Feminist Scholarship and Colonial Discourses', in *Contemporary Postcolonial Theory: A Reader*, ed. Padmini Mongia (New York: Arnold, 1996) pp. 172-97.

Paper 12: British Literature: The Early 20th Century

1. Joseph Conrad *Heart of Darkness*
2. D.H. Lawrence *Sons and Lovers*
3. Virginia Woolf *Mrs Dalloway*
4. W.B. Yeats 'Leda and the Swan'
'The Second Coming'
'No Second Troy'
'Sailing to Byzantium'
'E. E. Cummings: The Love Song of J. Alfred Prufrock'
'Sweeney among the Nightingales'
'The Hollow Men'

Suggested Topics and Background Prose Readings for Class Presentations

Topics

Modernism, Post-modernism and non-European Cultures
 The Women's Movement in the Early 20th Century
 Psychoanalysis and the Stream of Consciousness
 The Uses of Myth
 The Avant-Garde

Readings

1. Sigmund Freud, 'Theory of Dreams', 'Oedipus Complex', and 'The Structure of the Unconscious', in *The Modern Tradition*, ed. Richard Ellman et. al. (Oxford: OUP, 1965) pp. 571, 578-80, 559-63.
2. T.S. Eliot, 'Tradition and the Individual Talent', in *Norton Anthology of English Literature*, 8th edn, vol. 2, ed. Stephen Greenblatt (New York: Norton, 2006) pp. 2319-25.
3. Raymond Williams, 'Introduction', in *The English Novel from Dickens to Lawrence* (London: Hogarth Press, 1984) pp. 9-27.

Paper 13: Modern European Drama

1. Henrik Ibsen *Ghosts*
2. Bertolt Brecht *The Good Woman of Szechuan*
3. ~~Samuel Beckett *Waiting for Godot*~~
4. Eugene Ionesco *Rhinoceros*

Suggested Topics and Background Prose Readings for Class Presentations

Topics

Politics, Social Change and the Stage
 Text and Performance
 European Drama: Realism and Beyond
 Tragedy and Heroism in Modern European Drama
 The Theatre of the Absurd

Readings

1. Constantin Stanislavski, *An Actor Prepares*, chap. 8, 'Faith and the Sense of Truth', tr. Elizabeth Reynolds Hapgood (Harmondsworth: Penguin, 1967) sections 1, 2, 7, 8, 9, pp. 121-5, 137-46.
2. Bertolt Brecht, 'The Street Scene', 'Theatre for Pleasure or Theatre for Instruction', and 'Dramatic Theatre vs Epic Theatre', in *Brecht on Theatre: The Development of an Aesthetic*, ed. and tr. John Willet (London: Methuen, 1992) pp. 68-76, 121-8.
3. George Steiner, 'On Modern Tragedy', in *The Death of Tragedy* (London: Faber, 1995) pp. 303-24.

22/June 17



University of Delhi
Semester Examination May-June 2019

TRANSCRIPT

Exam Roll No. :16008511022
Name :MUSKAN GUPTA
Course Name :(CBCS) B.A.(HONS.) ENGLISH
Exam Sem :VI
College Name :Bharati College
Enrollment No. :16BHACBHEN000005

Date of Printing: 01 Jul 2019

Sr. No.	Paper Code	Appearing Status	Paper Name	Paper Type	Sem	Credit	Grade Letter	Grade Point	Credit Point
1	12031101	*	INDIAN CLASSICAL LITERATURE	CORE	I	6	B+	7	42
2	12031102	*	EUROPEAN CLASSICAL LITERATURE	CORE	I	6	B+	7	42
3	12315108	*	DELHI THROUGH THE AGES(NC) ADMISSION IN 2016	GE	I	6	A	8	48
4	72032801	*	ENGLISH-A	AECC	I	4	A+	9	36
5	12031201	*	INDIAN WRITING IN ENGLISH	CORE	II	6	A	8	48
6	12031202	*	BRITISH POETRY AND DRAMA: 14TH TO 17TH CENTURIES	CORE	II	6	A	8	48
7	12315210	*	ISSUES IN THE CONTEMPORARY WORLD: 1945-2000	GE	II	6	A	8	48
8	72182801	*	ENVIRONMENTAL SCIENCE	AECC	II	4	A+	9	36
9	12031301	*	AMERICAN LITERATURE	CORE	III	6	B+	7	42
10	12031302	*	POPULAR LITERATURE	CORE	III	6	A+	9	54
11	12031303	*	BRITISH POETRY AND DRAMA: 17TH AND 18TH CENTURIES	CORE	III	6	A	8	48
12	12033902	*	ENGLISH LANGUAGE TEACHING	SEC	III	4	O	10	40
13	12315354	*	PERSPECTIVES ON ENVIRONMENTAL HISTORY (NC)	GE	III	6	B+	7	42
14	12031401	*	BRITISH LITERATURE: 18TH CENTURY	CORE	IV	6	A+	9	54
15	12031402	*	BRITISH ROMANTIC LITERATURE	CORE	IV	6	A	8	48
16	12031403	*	BRITISH LITERATURE: 19TH CENTURY	CORE	IV	6	B+	7	42
17	12033905	*	CREATIVE WRITING	SEC	IV	4	B+	7	28
18	12315405	*	RELIGION AND RELIGIOSITY (NC)	GE	IV	6	B	6	36
19	12031501		WOMEN'S WRITING	CORE	V	6	B+	7	42
20	12031502		BRITISH LITERATURE: THE EARLY 20TH CENTURY	CORE	V	6	A	8	48
21	12037503		BRITISH LITERATURE: POST WORLD WAR II	DSE	V	6	B+	7	42
22	12037504		NINETEENTH CENTURY EUROPEAN REALISM	DSE	V	6	A+	9	54
23	12031601		MODERN EUROPEAN DRAMA	CORE	VI	6	B+	7	42
24	12031602		POSTCOLONIAL LITERATURES	CORE	VI	6	A	8	48
25	12037605		LITERARY THEORY	DSE	VI	6	B+	7	42
26	12037610		PARTITION LITERATURE	DSE	VI	6	B+	7	42

Sem	Total Credit	Total Credit Point	SGPA	Result	CGPA
I	22	168	7.64		
II	22	180	8.18		7.91
III	28	226	8.07		
IV	28	208	7.43		7.75
V	24	186	7.75		
VI	24	174	7.25		7.5

Grand CGPA: 7.716, Division: First

Abbreviations: O: Outstanding; A+: Excellent; A: Very Good; B+: Good; B: Above Average; C: Average; D: Pass; F: Fail; AB: Absent; NA: Not Available, *: Already Appeared;

Note: [1] This is web-based transcript. This is valid for all official purpose. Students are advised to get this transcript duly authenticated by the principal of the college.

[2] Student obtaining Grade F or AB shall be considered failed in that paper/subject and be required to reappear in the examination as per examination cycle.

[3] **Student has to pass the ER to become eligible for degree as per examination cycle and span period.**

[4] **Final Percentage of marks (%)=C.G.P.A. based on all six semesters X 9.5**

Date of Result Declaration: 28/06/2019

Vinay Gupta

Dean (Examinations)

Disclaimer: [1] The result displayed on university website is subject to correction, if any discrepancy is noticed at any point of time.

[2] Students should immediately contact examination branch if there is any discrepancy in the above result at Window No.-7 (between 9.30am and 3.00pm), New Examination Building (North Campus) and Window No.-7 (South Campus) within one month after the declaration of the result.

[3] Discrepancy related to AECC and SEC papers, students are advised to contact the office of the principal of the college.



Department of English
Central University of Jammu

Ref no.: CUJ/Eng/2019/38

Date: 20/01/2020

Subject: Constitution of the Committee for Credit Equivalence

The following Committee is proposed to be constituted for the credit equivalence with reference to application submitted by Ms. Muskan Gupta for transfer of credits from University of Delhi to Central University of Jammu to pursue her M A English from II semester from CUJ

Prof. Rasal Singh	Dean, School of Languages
Dr. Vandana Sharma	Head, Department of English
Dr. Neena Gupta Vij	Member
Dr. Raj Thakur	Member
Dr. Parveen Kumari	Member

Rasal Singh
21/1/2020
Prof. Rasal Singh
Dean, School of Languages

Vandana Sharma
20th Jan 2020
Dr. Vandana Sharma
Head
Department of English

2021/17
Date: 14/01/2020
HOD English
Central University of Jammu
Jammu

accepting credit transfer from other Universities, the case of candidate is recommended as per rule position & on compassionate grounds.

Dean

[Signature]
13th Jan 2020

Sub: Request for Admission

Madam

With deep regards, I put a request before your office to give a compassionate hearing to my case.

Mam, it is very very unfortunate that I lost my father in a sudden cardiac arrest on 30th Dec., 2019. Within ten minutes this whirlpool engulfed my family's only support. Now, there are only two people left, my mother and my grandmother, to pull their lives onwards.

It is my humble request to consider my case for admission to 2nd semester of P.G. English at your university.

Mam, I am already persuing P.G.English at Delhi University in Sri Venkateswara College and I have successfully written the 1st semester end exam in December, 19.(result awaited)

Further, I want to convey, very humbly, that I had cleared the English PG entrance exam of central university Jammu and was declared as 4th ranker in the merit list (proof attached). I took the admission also and had completed all the procedural formalities of the admission.

But, later I got myself enrolled with Delhi University

Destiny has, perhaps, written it otherwise.

Madam, it is a very humble request to give a compassionate hearing to my case, as I am the only person to support my family in this distress.

Hoping for a favourable response.

Yours faithfully,

Muskan

Muskan Gupta.



CENTRAL UNIVERSITY OF JAMMU
Rahya-Suchani (Bagla), District- Samba-181143
Jammu (J&K)

Minutes of
for Mol Bio

Centre for Molecular Biology

No: CUJ/MolBio/2020/574

Dated: 14th Feb. 2020.

Minutes of the meeting

The 3rd meeting of the Board of Studies (BoS), Centre for Molecular Biology (CMB) constituted vide Notification No. CUJ/acad/II-14/11/2017/800; Dated: 20th December, 2017 of the Registrar, CU Jammu was held on 14th February, 2020 at 11.00 AM in the Office Chamber of the Director, CMB (DDE building, CU Jammu). The following were present:

1. Prof. Mushtaq Ahmed - Director, CMB, Chairperson
2. Prof. Deepak Pathania - Dean, SoLS, (Special invitee)
3. Prof. Geeta Sumbali - Outside Subject expert
4. Prof. B.S. Bhau - Member (VC nominee)
5. Dr. Audesh Kumar Bhat, - Member
6. Dr. Ashok Kumar Yadav - Assistant Professor (Special invitee)
7. Dr. Praveen Kumar Mehta - Assistant Professor (Special invitee)
8. Dr. Shelly Sehgal - Assistant Professor (Special invitee)

At the outset, the Director, CMB welcomed the members of the BoS. Thereafter, following agenda items were discussed in the meeting:

1. To start Post graduate Programme in CMB

The Director, CMB informed the BoS that the Department of Biotechnology (DBT) had invited a proposal from the Centre for Molecular Biology (CMB), CU Jammu for financial funding to start Post graduate degree programme in Biotechnology. Last date for submission of the proposal fixed by the DBT was 20th January, 2020. In response to the said advertisement of the DBT, the Centre prepared a proposal for starting postgraduate degree in Biotechnology (M.Sc Biotechnology) and submitted to the DBT by the due date as duly forwarded by the Registrar of the University. If approved by the DBT, the course will be started by the Centre. The same along with list of courses was placed before the BoS for approval as Annexure-I.

J. S. Sharma
14/2/2020

Deepak Pathania
14/2/20

Ayadav

Geeta Sumbali

Ashok Kumar Yadav

Shelly Sehgal

10.	Bioremediation	2	3 & 4
11.	Enzyme Technology	4	4
12.	Biostatistics	2	3
13.	Plagiarism and ethics in Science	2	6
14.	Environmental Microbiology	2	3 & 4

* Levels 3,4,5 & 6 in the table respectively, refer to UG, PG, M.Phil and Ph.D programmes.

The list of courses as mentioned above was placed before the BoS for approval. The BoS discussed and approved the list.

3. To advertise vacant seats for Ph.D programme for the upcoming session (2020-21)

The Director CMB, apprised the BoS that currently four Research Scholars are enrolled for Ph.D programme degree in the Centre (CMB), whereas, the total number of potential research Supervisors (Faculty Members) to guide the students for Ph.D degree in the Centre is five (05). Therefore, the total number of vacant seats for Ph.D programmes in the Centre as per UGC norms as on date is given below.

S.No	Name of the faculty Member	Designation	Total number of seats (Intake capacity)	Number of students enrolled at present (filled seats)	Vacant seats
1.	Prof. Mushtaq Ahmed	Professor	8	0	8
2.	Dr. Audesh Kumar Bhat	Assistant Professor	4	1	3
3.	Dr. Ashok Kumar Yadav	Assistant Professor	4	1	3
4.	Dr. Praveen Kumar Mehta	Assistant Professor	4	1	3
5.	Dr. Shelly Sehgal	Assistant Professor	4	1	3
Total			24	04	20

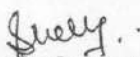
However, the Centre has limited space, lab and infrastructural facilities and hence only limited number of seats can be feasibly filled. Keeping in view the lab/space constraints as mentioned above, it may be decided that fifty percent seats may be filled during the upcoming session (2020-21). As soon as the Centre has full required space/Lab facilities, the remaining vacant seats shall be advertised and filled up. Accordingly, the total number of vacant seats to be advertised and filled during the current session in CMB shall be as under:


14/12/2020
 14/12/2020
 380
 14/12/2020


aspiring candidates. Minutes of the meeting of faculty members of CMB were placed as **Annexure-II** for approval of the BoS.

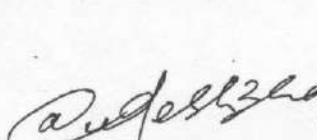
The BoS deliberated the issue at length and noted that since change of nomenclature of the programme as mentioned above has no scientific technical hitch and moreover, the proposed changed nomenclature shall be more appropriate vis-à-vis attractive in the present era scientific scenario. The BoS decided that in the interest of the student community vis-à-vis acceding to the requests of the potential stake holders, the nomenclature of the programme may be changed from the existing **Ph. D degree in Life Sciences with specialization in Molecular Biology** to **Ph. D degree in Biotechnology** from the upcoming session (2020-21). The BoS further decided that the changed nomenclature shall also be applicable retrospectively, for the students who have already been enrolled for Ph.D programme during the session 2019-20, provided such candidate (s) submit an undertaking (affidavit) to that effect.

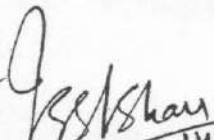
The meeting ended with a vote of thanks to the chair.

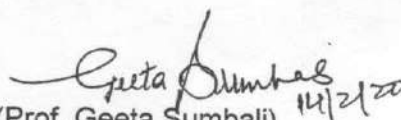

(Dr. Shelly Sehgal)
(Special invitee)

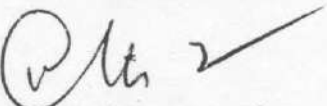

(Dr. Praveen Kumar Mehta)
(Special invitee)

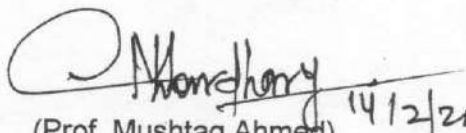

(Dr. Ashok Kumar Yadav)
(Special invitee)


(Dr. Audesh Kumar Bhat)
(Member)


Prof. B.S. Bhau
(VC nominee, Member)


(Prof. Geeta Sumbali)
(Outside subject Expert)


(Prof. Deepak Pathania)
(Dean, SoLS, special invitee)


(Prof. Mushtaq Ahmed)
Director, CMB, Chairperson

/BAGLA/MDL-BIO/2020/537

Dated 16/01/20

ANNEXURE - I

CENTRAL UNIVERSITY OF JAMMU
 जम्मू केन्द्रीय विश्वविद्यालय
 Rahya-Suchani (Bagla), District Samba-181143
 Jammu (J&K)

To,
 Dr. Manoj Singh Rohilla
 Scientist - E
 HRD Division
 Department of Biotechnology
 Block-2, 6th Floor, Room No. 606
 CGO Complex, Lod Road
 New Delhi-110003
 Email: manojrohilla.dbt@nic.in


Sub: Submission of proposal for starting Postgraduate Programme in Biotechnology.

Dear Sir,

This is with reference to the advertisement inviting fresh proposal to start start PG programme in Biotechnology and allied subjects. Please find enclosed five copies of the proposal along of the full proposal (supporting documents) for starting PG programme M.Sc. (Biotechnology) in Centre for Molecular Biology, Central University of Jammu. Soft copies of the same has been emailed on the given email ID: manojrohilla.dbt@nic.in.

Thanking you.

Yours Sincerely,


 Prof. Mushtaq Ahmad 16/1/2020
 Director, Centre for Molecular Biology,
 Central University of Jammu,
 Rahya Suchani Bagla, Samba-181143, Jammu J&K

Website: www.cujammu.ac.in

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10.	Consent letter (core faculty members)	68-72



SUBMISSION OF PROPOSAL FOR POSTGRADUATE TEACHING PROGRAM M.SC IN BIOTECHNOLOGY

UNDER HUMAN RESOURCE DEVELOPMENT PROGRAMME

1.	Name of the Institute/ University	:	Central University of Jammu
2.	Name of the Degree	:	M.Sc. Biotechnology
3.	Duration of the Course	:	2 Years
4.	Objectives of the programme	:	<ul style="list-style-type: none"> • Teaching and training objectives: <ul style="list-style-type: none"> ○ To impart quality teaching and training in the basic and industry-oriented areas of biotechnology and molecular biology, such as computational biology, gene/protein engineering, OMICS, medical/ environmental/ immuno/ industrial / microbial/ nano biotechnology etc. ○ To capture and nurture the young minds for excellence and to generate skilled manpower in the multidisciplinary areas of biotechnology, capable of undertaking R&D activities in the country and abroad. ○ To inculcate entrepreneur skills in the students and make them independent thinkers, planners and executers. • Research and Development objectives: <ul style="list-style-type: none"> ○ The UT of Jammu and Kashmir falls in the Himalaya range, which is one of the most biodiverse areas of the world. The rich indigenous flora and fauna of this region; however, remains less explored and provides a great opportunity for the budding scientist/students to undertake research in the relevant areas. ○ Our thrust area of research, therefore, will be to explore the potential of this biodiversity in healthcare, industry, environmental protection etc.
5.	Number of seats per year (Minimum and Maximum)	:	15 (minimum) to 30 (maximum)
6.	Justification for starting the Programme and requirement of DBT support.	:	Central University of Jammu (CUJ) is situated in Samba District of the Union Territory of Jammu and Kashmir. Centre for Molecular Biology of the University (CUJ) has been made operational since July, 2016 with an aim to focus on teaching

		and research to explore new vistas in the field of Biotechnology and Molecular Biology with special focus on the indigenous fauna and flora of Jammu and Kashmir Himalayan region for exploitation in agriculture, health and industry. The Centre has bright, young and dynamic permanent faculty members who already have mobilized extramural research grants worth crores in the form of research projects from various funding agencies including DST, ICMR and UGC. This Centre has already started Ph.D programme in Biotechnology and strives for excellence in teaching and research. With an aim to choose and trim the budding researchers in the young age, the Centre proposes to start one post graduate (M.Sc Biotechnology) teaching Programme from the upcoming academic session. The proposed M.Sc Biotechnology programme aims at attracting and nurturing the young minds in the field of Biotechnology. This is not possible without the financial support of the DBT. If sponsored by the DBT, the proposed teaching programme may prove as a milestone for this newly upcoming Centre to emerge as a Centre of excellence in the Jammu and Kashmir Himalayas.
7.	Total Project cost of the Programme for 5 Years	: Total: 12,32,50,000/- (Twelve crores thirty-two lakhs and fifty thousand only)
8.	The major areas of Teaching/Training (in-house Dissertation).	: Industrial Biotechnology, Medical biotechnology, Nanobiotechnology, Agricultural Biotechnology, Environmental Biotechnology, Enzyme technology, Bioprocess technology, Molecular and Cell Biology, Gut microbiology, Probiotics.
9.	Mode of selection of students	: All India Combined Entrance Examination conducted by DBT
10.	Eligibility for admission of students	: B.Sc. in Biotechnology, Biochemistry, Microbiology, Botany, Zoology, Life sciences and other allied subjects.
11.	Names of the Departments proposed to be collaborating in the Programme (The programme is envisaged to be collaborative, interdepartmental)	: Department of Botany, Department of Chemistry and Chemical Sciences, Department of Physics and Astronomical Sciences, and Department of Nano Sciences and Materials.

<p>12. Name, designation, field of specialization of faculty members of participating departments in the institution and list of major publications in the last five years in the field of biotechnology.</p>	<p><u>Core faculty members of the University with expertise in Molecular Biology and Biotechnology</u></p> <ol style="list-style-type: none"> <p>Name: Dr. Mushtaq Ahmed Designation: Professor, Centre for Molecular Biology Qualification: Ph.D. Field of Specialization: Environmental Biotechnology, Bioinformatics, Microbial Technology and Molecular Biology</p> <p>Name: Dr. Brij Mohan Singh Bhau Designation: Professor, Centre for Molecular Biology Qualification: Ph.D. Field of Specialization: Plant Biotechnology and Plant tissue culture</p> <p>Name: Dr. Audesh Kumar Bhat Designation- Assistant Professor, Centre for Molecular Biology Qualification- Ph.D. Field of specialization- Human Genetics, Cancer Biology and Biotechnology</p> <p>Name- Dr. Ashok Kumar Yadav Designation- Assistant Professor, Centre for Molecular Biology Qualification- Ph.D. Field of specialization- Gut Microbiology, Probiotics, Molecular Biology and Biotechnology</p> <p>Name- Dr. Praveen Kumar Mehta Designation- Assistant Professor, Centre for Molecular Biology Qualification- Ph.D. Field of specialization- Enzyme Technology, Bioprocess Technology, Microbiology, Molecular Biology and Biotechnology</p> <p>Name: Dr. Shelly Sehgal Designation: Assistant Professor, Centre for Molecular Biology Qualification: Ph.D. Field of specialization: Clinical Microbiology, Cancer Biology, Molecular Biology and Biotechnology</p> <p><u>Faculty Members of the Collaborating Departments:</u></p> <ol style="list-style-type: none"> <p>Name: Dr. Shridharan Vellaswamy Designation: Associate Professor, Department of Chemistry and Chemical Sciences Qualification: Ph.D. Field of Specialization: Organic Chemistry, Nanomaterials</p>
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		<p>2. Name: Dr. Tapta Kanchan Roy Designation: Assistant Professor, Department of Chemistry and Chemical Sciences Qualification: Ph.D Field of Specialization: Computational Chemistry</p> <p>3. Name: Dr. Pawan Kumar Designation: Assistant Professor, Department of Nano Sciences and Materials Qualification: Ph.D. Field of Specialization: Nanotechnology, sensors</p> <p>4. Name: Dr. Deepak Kumar Designation: Assistant Professor, Department of Botany Qualification: Ph.D. Field of Specialization: Plant Biotechnology</p> <p>5. Name: Dr. Vinay Kumar Designation: Associate Professor, Department of Physics and Astronomical Sciences Qualification: Ph.D. Field of Specialization: Material Science and Nano technology.</p>
13.	List of existing major equipments and infrastructure facilities including laboratory and class room space.	<p>All major Equipments available: -</p> <ol style="list-style-type: none"> 1. Thermal Cycler (PCR) 2. Gel Documentation System 3. Horizontal and Vertical Electrophoresis 4. Deep Freezer (-80 & -20) 5. Shaker Incubator 6. HPLC 7. Ultrapure water system 8. Autoclave 9. Laminar Flow 10. Cell Counter 11. Electroporator 12. Homogenizer 13. Co2 Incubator 14. Biosafety Cabinet 15. Multimode Plate Reader 16. Ice Flaking Machine etc 17. Biophotometer 18. Weighing Balance 19. pH meter <p>Existing infrastructure:</p> <ol style="list-style-type: none"> 1. Two Classrooms 2. Two labs 3. Library 4. Faculty rooms

14.	Major Research grants received	:	<p><i>Grants mobilized by the core (permanent) faculty members</i></p> <ol style="list-style-type: none"> 1. University Grants Commission (UGC), 2015: Rs. 15.8 lakhs (Completed) 2. Department of Science and Technology (DST, 2013). Rs. 25 Lakhs (Completed). 3. University Grants Commission (UGC)-Startup, 2017: Rs. 10 Lakhs (ongoing). 4. CRG-SERB Research Grant-2018: Rs. 55 Lakhs (ongoing). 5. SERB- Early Carrier Research Award-2017: Rs. 37 Lakhs (ongoing). 6. SERB- Early Carrier Research Award-2017: Rs. 49 Lakhs (ongoing). 7. University Grants Commission (UGC)-Startup, 2018: Rs. 10 Lakhs (ongoing). 8. ICMR-CAR 2018: Rs. 100 Lakhs (ongoing). <p>Total Grant received: 301.8 Lakhs</p>
15.	Facility for Students: (A) Hostel Facility (B) Placement Cell	:	<p>(A) Hostel facilities available. (B) Placement Cell exists.</p>
16.	Incubators set up by University for Entrepreneurship Development	:	UBIC, CU Jammu.
17.	University Ranking (A) NAAC (B) NIRF (C) Global Ranking	:	B++ (NAAC)
18.	Nearby institutions engaged in Biotechnology research and teaching.	:	<ol style="list-style-type: none"> 1. Department of Biotechnology, University of Jammu, Jammu Tawi-180001 2. CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu 3. Sher-e-Kashmir University of Agricultural Sciences and Technology-Jammu (SKUAST), Jammu- 180009 4. CSIR- Institute of Himalayan Bioresource Technology (IHBT), Palampur, HP 5. Shri Mata Vaishno Devi University (SMVDU), Katra.
19.	Linkage with nearby Industry engaged in Biotechnology R&D for Students Skill Training (Summer/Winter Training) as per Standards of Sector Skill Development Councils.	:	<ul style="list-style-type: none"> • Panacea Biotec, Baddi, HP • Health Biotech Limited, Baddi, HP • Cure Tech Skin Care, Baddi, HP • LifeCell International Pvt. Ltd. J&K, India • Ravenbhel Healthcare Pvt. Ltd. J&K, India.
20.	Semester-wise course content with Learning outcome (Please enclose details as per Annexure-I).	:	Annexure-I (enclosed)

21.	Financial assistance (Recurring and Non-recurring) required for Program (Please enclose break-up of funds required under different heads year wise with full justification)	:	1. Recurring: 4,70,00,000/- (Break-up and Justification enclosed) 2. Non-recurring: 7,62,50,000/- (Break-up and Justification enclosed)
22.	Fee structure/student/semester (Including all Charges)	:	As per University rules (approx.. 20,000 per student per Semester (inclusive of all charges)
23.	Academic Calendar (enclose Copy of University/Institute Notification)	:	As per University Academic Calendar (Copy enclosed)
24.	Name of the coordinating Department (Mode of disbursement of studentship to be clearly defined)	:	Centre for Molecular Biology, School of Life Sciences, Central University of Jammu, Rahya-Suchani (Bagla), District Samba-181143, Jammu, J & K
25.	Name and full address of the Course coordinator with Telephone Nos. (office and residence), Telex, Fax, e-mail etc. Name and full address of the Vice-Chancellor/ Director with Telephone Nos. (office and residence), Telex, Fax, email etc.	:	Prof. Mushtaq Ahmed, Director, Centre for Molecular Biology, School of Life Sciences, Central University of Jammu, Rahya-Suchani (Bagla), District Samba-181143, Jammu, J & K. Email: mushtaq.cuhp@gmail.com hod.molb@cu-jammu.ac.in Prof. Ashok Aima, Vice Chancellor, Central University of Jammu, Rahya-Suchani (Bagla), District Samba-181143, Jammu, J & K Email: vicechancellor.cuj@gmail.com

* Each student selected should receive stipend/fellowship every month. The stipend/Fellowship should be credited to the account of the student by 30th or 31st of each month as the case may be.

<p>Signature of the Head of the Institute/University (Director/Registrar) with Stamp</p> <p><i>[Signature]</i> 15/01/2020</p> <p>रजिस्ट्रार / Registrar s/c जम्मू केन्द्रीय विश्वविद्यालय Central University of Jammu</p>	<p>Signature of the Program Coordinator with Stamp</p> <p><i>[Signature]</i> 14/11/2020</p> <p>आणविक जीवविज्ञान केन्द्र Centre for Molecular Biology जम्मू केन्द्रीय विश्वविद्यालय Central University of Jammu Jammu</p>
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Details of the Collaborative Department Proposed for Teaching and Training in Biotechnology

S. No.	Name of Department	Name and Address of Head of the Department	Faculty Details (Name and designation) *	Written Consent Enclosed (Yes/No)
1.	Department of Botany	Prof. B. S. Bhau, Central University of Jammu, Rahya-Suchani (Bagla), District Samba-181143, Jammu, J & K	<ul style="list-style-type: none"> • Dr. Brijmohan Singh Bhau, Professor • Dr. Deepak Kumar, Assistant Professor 	Yes (Enclosure-3 & 4)
2.	Department of Chemistry and Chemical Sciences	Dr. Sridharan Vellaisamy, Central University of Jammu, Rahya-Suchani (Bagla), District Samba-181143, Jammu, J & K	<ul style="list-style-type: none"> • Dr. Sridharan Vellaisamy, Associate Prof. • Dr. Tapta Kanchan Roy, Assistant Professor 	Yes (Enclosure-5 & 6)
3.	Department of Material science and Technology	Dr. Sridharan Vellaisamy, Central University of Jammu, Rahya-Suchani (Bagla), District Samba-181143, Jammu, J & K	<ul style="list-style-type: none"> • Dr. Pawan Kumar, Assistant Professor 	Yes (Enclosure-7)
4.	Department of Physics and Astronomical Sciences	Dr. Vinay Kumar, Central University of Jammu, Rahya-Suchani (Bagla), District Samba-181143, Jammu, J & K	<ul style="list-style-type: none"> • Dr. Vinay Kumar, Associate Professor 	Yes (Enclosure-8)

* Enclose written consent of individual faculty members of collaborative Departments for participation in proposed Teaching and Training Program (M.Sc./M.Tech. Program) in Biotechnology.

Annexure-I

Learning outcome: As per DBT Model Course Curriculum:

S. No.	Semester	Theory and Practical Paper Code and Title	Hands on Skill Set Proposed to be Provided to Students	Generation of New Knowledge Globally Recognized	Entrepreneurship Skills to be Imparted
1	Semester-I	PGBT101: Biochemistry	Introduce the student to various classical and modern techniques used in biochemical research. Various analytical and separation techniques, and introduce them to the methods of studying biological molecules.	The course encompasses the principles, significance, applications, and limitations of biochemical techniques.	Training imparted of biochemical reactions can be applied to start primary ventures like biochemical/diagnostic laboratory etc.
2		PGBT102: Cell and Molecular Biology	Detailed insight into the structure and function of fundamental biomolecules. Training on the methods of studying biological molecules will be imparted.	Knowledge of recent advances in the field will be imparted.	Trained student can explore the knowledge for research/commercial ventures in field of food, industry, diagnostic biology etc.
3		PGBT103: Microbiology and Genetics	This course provides a hands-on experience on various tools and techniques in basic and applied microbiology and genetics.	Understanding the potential of advances in knowledge of microbes and genetics are improving human lives will be imparted.	Applications in field of food/medicine/environment and developing new genetic screening methods can be explored.
4		PGBT104: Biostatistics and Computers	Training on using computer softwares/applications in basic and applied research will be imparted	Pivotal role of biostatistics in retrieving information for population based programmes will be introduced.	Knowledge of fundamentals of biostatistics can be applied for epidemiology/population based programmes.
5		PGBT105: Laboratory I: Cell and Molecular Biology	The hands on training encompasses the principles, significance, applications, and limitations of molecular biology techniques.	Besides basic instrumentation, students will get an opportunity to learn advanced techniques supplementing molecular biology.	Applications in field of food/medicine/environment and developing new molecular biomarkers can be explored.
6		PGBT106: Laboratory II: Biochemistry, Genetics and Microbiology	Hands-on experience on the tools and techniques of applications of biochemistry and microbiology will be given.	Understanding of how advances in knowledge of microbes and biochemical reactions are improving human lives will be imparted.	Training imparted of microbiological and biochemical reactions can be applied to start primary ventures like biochemical/diagnostic laboratory etc.
7		PGBT107: Immunology and Immunotechnology	Training is intended to make the student aware of the types of immunity, and biochemical mechanisms involved in immune responses and immune-mediated diseases.	An introduction to immunotechnology, and other emerging areas in this field, is also included.	The training is expected to make the student understand the role of immune system at cellular level for application in clinical research.

Semester-II	PGBT108: Computational Biology and Bioinformatics	Training is meant to familiarize the student with the use of computer softwares/applications in understanding life processes and to retrieve information, and use of tools for data analysis.	Applications of databases/software in basic and advanced research will be discussed.	Knowledge of fundamentals of bioinformatics can be applied for industry based on dry lab molecular biology.
	PGBT109: Recombinant DNA Technology	Techniques concerning gene cloning, analysis of genes and genome by DNA sequence analysis will be taught.	Critical description of existing methods in gene technology will be given.	Applications in field of food/medicine/environment and developing new cloning vectors can be explored
	PGBT110: Enzyme Technology Elective-1	Training on techniques using in-depth knowledge of enzymes, their classification, catalysis and kinetics will be imparted	An account of the catalytic mechanisms and immobilized enzymes will be given.	Applications in field of food/medicine/environment based on discovery/development of novel enzymes can be explored.
	PGBT111: Industrial Biotechnology Elective-2	Training on techniques using in-depth knowledge of industry related biotechnological techniques will be imparted.	An account of the catalytic mechanisms and immobilized enzymes will be given.	Applications in field of food/medicine/environment based on discovery/development of novel enzymes can be explored.
	PGBT112: Biophysical techniques	Students will be trained in applications of techniques like spectroscopy, chromatography, HPLC, NGS, Microarray Microscopy etc.	Knowledge from classical to modern biophysical techniques used in biochemical research will be imparted.	Applications in field of food/medicine/environment based on discovery/development of novel enzymes can be explored.
	PGBT113: Laboratory I: Computational Biology, Bioinformatics and Biostatistics	Technical knowhow of computer softwares/applications in basic and applied research will be imparted	Central role of computer softwares in retrieving information for research will be introduced.	Knowledge of fundamentals of bioinformatics can be applied for industry based on dry lab molecular biology.
	PGBT114: Laboratory II: Immunology, Genomics and Proteomics	Training on techniques using in-depth knowledge of protein kinetics, protein ligand interactions, immune responses and genomic mechanisms will be imparted.	Applications of techniques like mass spectrometry in protein structure determination etc. will be taught.	Students can explore applications of genomics and proteomics in biomolecule structure/function determination.
	PGBT115: Plant and Animal Biotechnology	Techniques involving <i>in-vitro</i> plant breeding, crop improvement, and animal cell culture techniques will be taught.	International efforts and India initiatives in this field will be arrived at.	Hydroponics and other smart agricultural techniques can be adopted as commercial ventures dairy processes for producing superior quality, safe and wholesome dairy products.

Semester-III	PGBT116: Bioprocess Technology	Training which make students to plan, design, execute, analyze, and solve industrial and research associated problems will be given.	Acquire knowledge to design new biotechnological products or processes	Students will be competitive enough to make successful career in industries and research institutes/universities
	PGBT117: Nanobiotechn ology	Technologies involved in the development of new materials, new technologies or new kinds of medicines will be introduced.	Course focuses on designing, fabricating and controlling materials and components with dimensions on the nanoscale.	Will enable students to initiate ventures on development of new materials, new technologies or new kinds of medicines.
	PGBT118: Environmenta l Biotechnolog y Elective-III	Scientific and engineering knowledge related to the use of microorganisms and their products in the prevention of environmental pollution.	Biotreatment of solid, liquid, and gaseous wastes, bioremediation of polluted environments, and biomonitoring of environment.	Student can try to harness biological process for commercial uses and exploitation.
	PGBT119: Food technology Elective-IV	The hands on training encompassing the applications of food biotechnology techniques.	Knowledge of packaging and advanced food preservation techniques	Applications in field of food/medicine etc. developing new products can be explored
	PGBT120: Biopharmace utical technology Elective-V	Pharmaceutical calculations, understanding labeling of Pharmaceutical products etc.	Applied mechanics will be addressed.	Applications in field of industrial biotechnology/medicine/ environment and developing new products can be explored
	PGBT121: Intellectual Property Rights, Biosafety and Bioethics	Disseminate knowledge on patents, patent regime in India and abroad, copyrights, biosafety etc.	Focus on the ethical issues emerging from new situations and possibilities brought about by advances in biology and medicine.	Ventures encompassing moral discernment related to medical policy, practice, and research.
	PGBT122: Laboratory I: Animal and Plant Biotechnolog y	Comprehensive training on <i>in-vitro</i> plant and animal tissue culture techniques will be given.	Besides basic instrumentation, students will get an opportunity to learn advanced techniques supplementing biotechnology.	Applications in field of food/medicine/environm ent and developing new products can be explored.
	PGBT123: Laboratory II: Genetic engineering and Bioprocess Technology	Wide-ranging recombinant technology techniques and basics of fermentation technology will be imparted.	Besides basic instrumentation, students will get an opportunity to learn advanced techniques supplementing molecular biology.	Applications in field of food/medicine/environm ent and developing new industrial products can be explored.
Semester-IV	FGBT124: Dissertation	Student will get an opportunity to have hands on experience of addressing a small research problem using different biotechnological techniques.	Develop skills in manuscript writing to research work.	Enable students to develop skills in manuscript writing and thereby developing better communication skills

COURSE CURRICULUM FOR M.Sc. BIOTECHNOLOGY



**Centre for Molecular Biology
CENTRAL UNIVERSITY OF JAMMU**

JAMMU, J&K

2020

Table of Contents

S. No.	Code	Title	Credits	Page No.
SEMESTER – I				
1	PGBT101	Biochemistry	4	
2	PGBT102	Cell and Molecular Biology	4	
3	PGBT103	Microbiology and Genetics	4	
4	PGBT104	Biostatistics and Computers	4	
5	PGBT105	Laboratory I: Cell and Molecular Biology	4	
6	PGBT106	Laboratory II: Biochemistry, Genetics and Microbiology	4	
TOTAL:			24	

S. No.	Code	Title	Credits	Page No.
SEMESTER – II				
7	PGBT107	Immunology and Immuno-technology	3	
8	PGBT108	Computational Biology and Bioinformatics	3	
9	PGBT109	Recombinant DNA Technology	3	
10	PGBT110	Enzyme Technology/ Elective I	3	
11	PGBT111	Industrial Biotechnology/ Elective II	2	
12	PGBT112	Biophysical techniques	2	
13	PGBT113	Laboratory I: Computational Biology, Bioinformatics and Biostatistics	4	
14	PGBT114	Laboratory II: Immunology, Recombinant DNA technology	4	
TOTAL:			24	

S. No.	Code	Title	Credits	Page No.
SEMESTER – III				
15	PGBT115	Plant and Animal Biotechnology	2	
16	PGBT116	Bioprocess Technology	2	
17	PGBT117	Nanobiotechnology	2	
18	PGBT118	Environmental Biotechnology/ Elective III	2	
19	PGBT119	Food Biotechnology/Elective IV	2	
	PGBT120	Biopharmaceutical Technology/Elective V	2	
20	PGBT121	Intellectual Property Rights, Biosafety and Bioethics	2	
21	PGBT122	Laboratory I: Animal and Plant Biotechnology	4	
22	PGBT123	Laboratory II: Environmental Biotechnology and Bioprocess Technology	4	
TOTAL:			22	

S. No.	Code	Title	Credits	Page No.
SEMESTER – IV				
23	PGBT124	Dissertation	20	
TOTAL:			20	

Total Credits	90
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CENTRAL UNIVERSITY OF JAMMU

Rahya-Suchani (Bagla), District- Samba-181143
Jammu (J&K)

Centre for Molecular Biology

Minutes of the meeting

A meeting of the Faculty Members of the Centre for Molecular Biology (CMB) was held on 4th February, 2020 at 11.00 AM in the Office Chamber of the Director, CMB (DDE building, CU Jammu). The following were present:

1. Prof. Mushtaq Ahmed - Director, CMB, in the Chair
2. Dr. Audesh Kumar Bhat - Assistant Professor
3. Dr. Ashok Kumar Yadav - Assistant Professor
4. Dr. Praveen Kumar Mehta - Assistant Professor
5. Dr. Shelly Sehgal - Assistant Professor

At the outset, the Director, CMB welcomed the faculty members. Thereafter, following agenda items were discussed in the meeting:

1. The vacant seats for Ph.D programme for the upcoming session (2020-21).

Currently four Research Scholars are enrolled for Ph.D programme degree in the Centre (CMB), whereas, the total number of potential research Supervisors (Faculty Members) to guide the students for Ph.D degree in the Centre is five (05). Therefore, the total number of vacant seats for Ph.D programmes in the Centre as per UGC norms as on date is given below.

S.No	Name of the faculty Member	Designation	Total number of seats (Intake capacity)	Number of students enrolled at present (filled seats)	Vacant seats
1.	Prof. Mushtaq Ahmed	Professor	8	0	8
2.	Dr. Audesh Kumar Bhat	Assistant Professor	4	1	3
3.	Dr. Ashok Kumar Yadav	Assistant Professor	4	1	3
4.	Dr. Praveen Kumar Mehta	Assistant Professor	4	1	3
5.	Dr. Shelly Sehgal	Assistant Professor	4	1	3
Total			24	04	20

Mushtaq Ahmed

Audesh Kumar Bhat
4/2/2020
@3h

Shelly Sehgal
M. Handhary

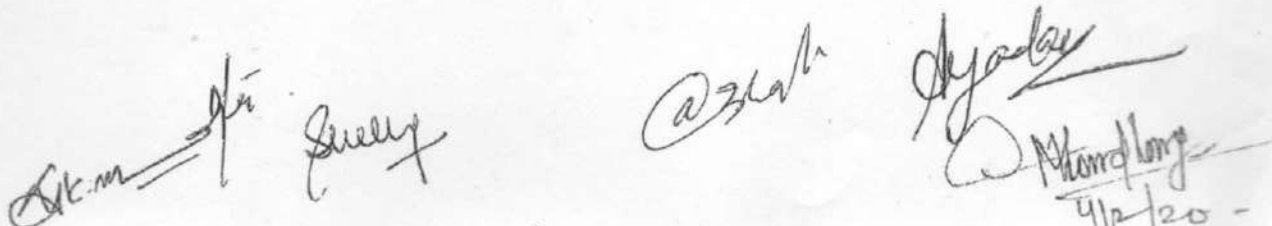
However, the Centre has limited space, lab and infrastructural facilities and hence only limited number of seats can be feasibly filled. Keeping in view the lab/space constraints as mentioned above, it was decided that fifty percent seats may be filled during the upcoming session (2020-21). As soon as the Centre has full required space/Lab facilities, the vacant seats shall be filled up. Accordingly, the total number of vacant seats to be filled during the current session in CMB shall be as under:

S.No	Name of the faculty Member	Designation	Vacant seats to filled during the session 2020-21
1.	Prof. Mushtaq Ahmed	Professor	4
2.	Dr. Audesh Kumar Bhat	Assistant Professor	2
3.	Dr. Ashok Kumar Yadav	Assistant Professor	2
4.	Dr. Praveen Kumar Mehta	Assistant Professor	2
5.	Dr. Shelly Sehgal	Assistant Professor	2
Total			12

2. The nomenclature of Ph.D degree programme in CMB

Initially the Centre offered Ph. D degree programme in Life Sciences with specialization in Molecular Biology during the session 2019-20. However, apprehensions are being expressed by the stake holders (potential aspiring candidates including those who have already been enrolled for the programme) that this nomenclature of the degree is very vague and does not suit them for job prospects. In spite of having due expertise, they are rendered ineligible for the post of Assistant Professors/Scientists etc by the recruiting agencies (PSCs/UPSC/many Universities etc) merely on the grounds that the name of the degree doesn't fit/exists in their list (although they have the expertise). The repeated requests are being received from the aspiring candidates/stake holders that the nomenclature of the Ph.D degree offered by the CMB must be changed from the existing **Ph. D degree in Life Sciences with specialization in Molecular Biology** to **Ph. D degree in Biotechnology**.

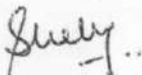
The issue was deliberated at length and it was observed that since change of nomenclature of the programme as mentioned above has no scientific technical hitch and moreover, the proposed changed nomenclature shall be more appropriate vis-à-vis attractive in the present era scientific world. Therefore, in the interest of the student community vis-à-vis acceding to the requests of the potential stake holders, it was

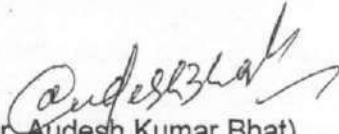


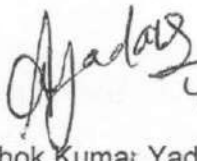
 Mushtaq Ahmed
 Shelly Sehgal
 Ashok Yadav
 Praveen Kumar Mehta
 4/12/20

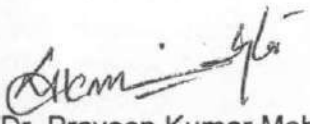
resolved that nomenclature of the programme may be changed from the existing Ph. D degree in Life Sciences with specialization in Molecular Biology to Ph. D degree in Biotechnology from the upcoming session (2020-21). The Director, CMB was authorized to send the vacant number of seats (to be filled/advertised) with changed nomenclature of the programme as mentioned above to the concerned for the purpose. However, this shall be subject to approval by the appropriate statutory authorities of the University.

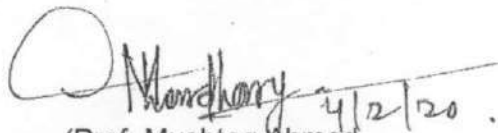
The meeting ended with a vote of thanks to the chair.


(Dr. Shelly Sehgal)


(Dr. Audesh Kumar Bhat)

 4/2/2020
(Dr. Ashok Kumar Yadav)


(Dr. Praveen Kumar Mehta)

 4/2/20
(Prof. Mushtaq Ahmed
Director, CMB)



भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
बायोटेक्नोलॉजी विभाग
ब्लॉक-27 वां तल, सी० जी० ओ० कम्प्लेक्स
लोदी रोड, नई दिल्ली-110003
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
Block-2, 7th Floor C.G.O. Complex
Lodi Road, New Delhi-110003

Dr. Meenakshi Munshi
Adviser
Email: meenakshi29@dbt.nic.in
Tel: 011-24361035

14th May, 2020

Approved
DB

Dear Dr. Ahmed,

This is with reference to your M.Sc. Biotechnology proposal submitted to Department of Biotechnology, Ministry of Science & Technology, GoI, for financial support under DBT PG Teaching Programme. I am happy to inform you that the DBT-HRD Task Force has considered your proposal and recommended for financial support during 15th Finance Commission (2020-21 to 2024-25). The Recommendations of Task Force are as follows for your kind perusal and necessary action:

"The Task Force recommended that university should adopt the DBT terms and conditions for proposed programme and submit the details of core faculty of Department proposed to implement the programme to DBT."

The Task Force has also recommended 10 seats/annum under PG Teaching Program at your university under DBT support. University may work out on number of seats to be offered under DBT support as per infrastructure facilities and inform DBT the number of seats/annum that will be offered under DBT support at your university during 2020-21 academic session. The terms of reference/pattern of entrance examination for selection and admission of students at national level under DBT support is also enclosed for your information.

The DBT support for M.Sc. Biotechnology at your university is subject to acceptance of Mandatory Terms and Conditions laid by the Department. The Terms and Conditions are enclosed as attachment. If you are ready to join the DBT PG Teaching Programme as per DBT Mandatory Terms and Conditions, kindly submit the signed copy through email within 5 days (i.e., on or before 19th May 2020), otherwise it will be presumed that your university is no longer interested in DBT support for proposed PG Teaching Program. You are requested to submit the original hard copy of the same in due course of time. It may however, be noted that no change in any clause of the mandatory terms and conditions will be accepted, if same has been found at any point of time, the support will be withdrawn without any notice.

An early response, latest by 19th May, 2020 should reach us for further action at our end.

With regards,

Yours sincerely,

(Meenakshi Munshi)

Dr. Mushtaq Ahmed
Prof. & Director, Centre for Molecular Biology
School of Life Sciences
Central University of Jammu
Dist- Samba-181143, Jammu, J&K



REGIONAL CENTRE FOR BIOTECHNOLOGY
An Institution of National Importance
Established by the Department of Biotechnology, Government of India,
under the auspices of UNESCO
Faridabad-Gurgaon Expressway, Faridabad -121001

GRADUATE APTITUDE TEST-BIOTECHNOLOGY (GAT-B) 2020

Regional Centre for Biotechnology is conducting the Graduate Aptitude Test-Biotechnology (GAT-B), an eligibility test for admission to the DBT-supported PG programmes in Biotechnology in participating institutions.

This test replaces Combined Entrance Examination in Biotechnology (CEEB), conducted previously by JNU
Based on the examination score, an All-India category-wise merit list with GAT-B rank will be generated. Using the rank, the candidate may apply to various DBT-supported PG programmes in participating institutions. The participating institutions will advertise these programmes and admit students as per their admission & selection process.

Candidates may apply online.

Start Date: 01.06.2020 (10.00 AM)

Closing Date: 18.06.2020 (11.59 PM)

For further details, please visit www.rcb.res.in/GATB

Registrar
Regional Centre for Biotechnology



क्षेत्रीय जैवप्रौद्योगिकी केन्द्र
राष्ट्रीय महत्ता की संस्था
जैवप्रौद्योगिकी विभाग, भारत सरकार द्वारा यूनेस्को के तत्वावधान में स्थापित
फरीदाबाद-गुड़गाँव एक्सप्रेसवे, फरीदाबाद- 121001

स्नातक योग्यता परीक्षा- जैवप्रौद्योगिकी (जीएटी-बी) 2020

स्नातक योग्यता परीक्षा- जैवप्रौद्योगिकी 2020 हेतु ऑनलाइन आवेदन आमंत्रित किए जा रहे हैं। विस्तृत विज्ञापन तथा आवेदन की जानकारी वेबसाइट <http://rcb.res.in/GATB> पर देख सकते हैं। आवेदन करने की अंतिम तिथि 18.06.2020 है।

कुलसचिव
क्षेत्रीय जैवप्रौद्योगिकी केन्द्र

GRADUATE APTITUDE TEST-BIOTECHNOLOGY (GAT-B) 2020

(Eligibility test for admission to DBT-supported PG Programmes in Biotechnology in participating institutions across India: M.Sc. Biotechnology, M.Sc. Agricultural Biotechnology, M.V.Sc., M.Tech. Biotechnology and M.Sc. in allied areas)

This eligibility test replaces Combined Entrance Examination for Biotechnology (CEEB) conducted previously by Jawaharlal Nehru University (JNU).

1. GENERAL

Biotechnology is a multidisciplinary area on the educational scene and programmes have been developed to meet the growing demand for trained manpower for any meaningful Biotechnological activity in the country. The programmes are designed to expose the students to methodology, basics and advances of various areas of biotechnology including health, industry, agriculture and medicine.

2. GRADUATE APTITUDE TEST-BIOTECHNOLOGY (GAT-B)

The Graduate Aptitude Test-Biotechnology (GAT-B), being conducted by the Regional Centre for Biotechnology on behalf of the Department of Biotechnology, Government of India, is the admission eligibility test for DBT-supported PG programmes in the participating institutions.

The GAT-B examination centres will be spread across the country. The list of examination centres can be seen at www.rcb.res.in/GATB. The examination will be a Computer Based Test (CBT). The duration of the examination will be 180 minutes. The details of examination, marking scheme and syllabus is available at www.rcb.res.in/GATB.

Note that the GAT-B rank is valid for the academic year 2020-21 only. Call for admissions will be advertised separately by the participating institutions for DBT-supported programmes. RCB/DBT will not be responsible for the admission & selection process by the individual participating institutions.

3. DETAILS OF GAT-B EXAMINATION

The examination will be conducted in a single shift for a duration of 180 minutes. The question paper will have two parts:

PART- A: Part A will have 60 compulsory multiple choice questions of the level of 10+2 in the subjects: Physics, Chemistry, Mathematics and Biology. Each correct answer will be of one mark each. There will be negative marking and for each wrong answer, $\frac{1}{2}$ (half) mark will be deducted.

PART-B: Part B will have multiple choice questions of bachelor's level requiring thinking and analysis. There will be questions from basic Biology, Life Sciences, Biotechnology and allied areas as per syllabus attached. There will be 100 questions out of which the candidates will have to attempt 60 questions. Each correct answer will have a weightage of 3 marks. There will be negative marking and for each wrong answer one mark will be deducted. Sample question papers are available on RCB website. A mock test is also available on the RCB website.



ज्ञान-विकास विमुक्तये

डॉ. जितेंद्र कुमार त्रिपाठी
संयुक्त सचिव

Dr. Jitendra K. Tripathi
Joint Secretary



सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission

(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)

बहादुर शाह जफर मार्ग, नई दिल्ली-110002

E-mail : jitendratripa@ugc@nic.in

By Speed Post

F.No.1-1/2013 (CU) Vol-XVIII

November, 2019

The Vice-Chancellor,
Central University of Jammu,
Bagla (Rahya-Suchani),
District Samba, Jammu – 181 143, (J & K)

18 NOV 2019

Subject: Approval of teaching posts– reg.

Approval
Tea

Sir,

This is in reference to your office letter No. CUJ/Regr/2019/244 dated 08.05.2019, CUJ/VC/PS/15/830 dated 24.05.2019 and CUJ/Acad/Corr-UGC/2019/183 (a) dated 04th June, 2019 regarding the approval of teaching positions. The proposal was placed before the Committee constituted for this purpose on 31.07.2019. The proposal of the university was considered by the Committee. The recommendations of the Committee were placed before the Commission in its 544th meeting held on 16th October, 2019. The Commission considered and approved the recommendations of the Committee. Accordingly, the approval of UGC is hereby conveyed that the Committee considered the proposal of the university and recommended for approval of Department of Earth Sciences in place of Department of Tourism Management as per request of the university.

The expenditure on teaching positions approved for above mentioned departments may be incurred out of the funds provided under salary head (36) of Annual allocation of 2019-20.

The above approval is subject to the fulfillment of the following conditions:-

- (i) University may fill up the teaching positions at the earliest and explore the possibility to allocate the vacant teaching positions in the new areas where the requirement of teaching positions in a particular department is more needed.
- (ii) The University should strictly adhere the reservation policy for SC/ST/OBC/PH/EWS as per Government of India/UGC guidelines while filling up the teaching positions.
- (iii) The UGC Regulations of 2018 relating to Minimum Qualification for appointment of Teachers and other Academic Staff in University and Colleges and measures for the maintenance of Standards in Higher Education and as amended from time to time should be strictly followed.

Yours faithfully,

(Jitendra K. Tripathi)

Copy to :

1. F. No.30-1/2019 (CU)
2. Section Officer (Meeting Cell), UGC New Delhi in r/o item No. 2.10 of the 544th Commission Meeting held on 16th October, 2019.

V. Tareja



(Jitendra K. Tripathi)

18 NOV 2019



ज्ञान-विज्ञान विमुक्तये



सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission

(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)

बहादुर शाह जफर मार्ग, नई दिल्ली-110002

Bahadur Shah Zafar Marg, New Delhi-110002

दूरभाष Ph : 011-23239200

E-mail : jitendratrpathi.ugc@nic.in

डॉ. जितेन्द्र कुमार त्रिपाठी
संयुक्त सचिव

Dr. Jitendra K. Tripathi
Joint Secretary

By Speed Post

F.No.1-1/2013 (CU) Vol-XVII

March, 2019

The Vice-Chancellor,
Central University of Jammu,
Bagla (Rahya-Suchani),
District Samba,
Jammu – 181 143,
(J & K)

06 MAR 2019

Approval

Subject: Approval of teaching posts– reg.

Sir,

This is in reference to your office letter No. CUJ/Estab.T-38/2018/821 dated 30.10.2018 and CUJ/Estab.T-38/2018/905 dated 09.11.2018 regarding the requirement of additional/new teaching positions and presentation made by the university before the Committee constituted for this purpose on 14.02.2019. The proposal of the university was considered by the Committee. The recommendations of the Committee were placed before the Commission in its 539th meeting held on 26th February, 2019. The Commission considered and approved the recommendations of the Committee. Accordingly, the undersigned is directed to convey the approval of UGC for creation of 21 (Twenty one) teaching positions in respect of Central University of Jammu, Jammu as per details below:

Sl. No.	Name of Department(s)	Teaching positions approved by UGC			
		Professor	Associate Professor	Assistant Professor	Total
	New Departments				
1	Department of Law	1	2	4	7
2	Department of Visual & Performing Arts	1	2	4	7
3	Department of Tourism Management	1	2	4	7
	Total (New Departments)	3	6	12	21

V. Taksya



The expenditure on teaching positions approved for above mentioned departments may be incurred out of the funds provided under salary head (36) of Annual allocation of 2019-20.

The above approval is subject to the fulfillment of the following conditions:-

- (i) University may fill up the teaching positions at the earliest and explore the possibility to allocate the vacant teaching positions in the new areas where the requirement of teaching positions in a particular department is more needed.
- (ii) The University should strictly adhere the reservation policy for SC/ST/OBC/PH/EWS as per Government of India/UGC guidelines while filling up the teaching positions.
- (iii) The UGC Regulations of 2018 relating to Minimum Qualification for appointment of Teachers and other Academic Staff in University and Colleges and measures for the maintenance of Standards in Higher Education and as amended from time to time should be strictly followed.

Yours faithfully,

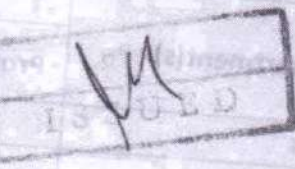
(Jitendra K. Tripathi)

Copy to :

- 1. F. No.30-1/2018 (CU)
- 2. Section Officer (Meeting Cell), UGC New Delhi in r/o item No. 2.06 of the 539th Commission Meeting held on 26th February, 2019.

(Jitendra K. Tripathi)

Total	Teaching positions approved		Name of Department
	Professor	Associate Professor	
7	7		Department of Law
7	7		Department of Visual & Performing Arts
7	7		Department of Tourism
19	19		Total (New Departments)



V. Tarek

MINUTES OF THE MEETING

An urgent meeting of all the Deans of different Schools of the University was held on 7th July, 2020 at 12.00 PM in the Office Chamber of Prof. Devanand, Dean, SoBAS. The following were present:

- | | |
|------------------------------------|------------------------------|
| 1. Prof. Devanand Padha | - Dean, SoBAAS- In the chair |
| 2. Prof. Deepak Pathania (on line) | - Dean, SoLS |
| 3. Prof. B.S. Bhau | - Dean, SoNSS |
| 4. Prof. Sunil Dhar | - Dean, SoE |
| 5. Prof. Mushtaq Ahmed | - Dean, SoHSS |
| 6. Prof. Rasal Singh | - Dean, SoL |

As directed by the Hon'ble Vice Chancellor, the issue pertaining to change of nomenclature of Ph. D degree from "Ph.D in Life sciences (with specialization in Molecular Biology) to Ph. D in Biotechnology" was discussed.

The change in nomenclature of Ph.D degree in life sciences (with specialization in Molecular Biology) to Ph. D in Biotechnology by the centre for Molecular Biology is justified on the following grounds:

1. Molecular Biology is a specialized area of Biotechnology and comes under its broad spectrum.
2. The courses taught to the students enrolled for Ph. D in the Centre for Molecular Biology are same as those taught to students enrolled for Ph.D programme in Biotechnology.
3. Because of changed nomenclature the students will become eligible for the posts of Assistant Professor etc in colleges/Universities through recruitments by public services which otherwise render them ineligible for the same.
4. The changed nomenclature has been widely discussed and already approved by BOS and school Board that include external subject experts as well.

[Signature]
6/07/2020

[Signature]

[Signature]

for
Dean, SoLS
Prof. Pathania
[Signature]

06/07/2020

[Signature]
6/7/20

approved online through the

5. The advertisement has already been issued for admission of students to Ph. D programme in Biotechnology for session 2020-21 and University has received more than 341 applications which is around seven times more than the application received during previous years when the nomenclature of Ph.D programme was in Life Sciences. This 7 fold increase in number of applications shows that the changed nomenclature is more attractive to the potential stakeholders and suits them well keeping in view their career prospects and is therefore, hence justified.

The Deans Unanimously resolved that the changed nomenclature is more appropriate and being in the interest of potential aspiring candidates approved the same.

The meeting ended with a vote of thanks to the chair.

Dean, SOLs
Prof. Deepak Pathania
approved on line through
phone

Q. Mondhary
for
(Dean, SOLs)

V. M. M. / 12
6/7/2020
[Signature]
6/07/2020

Q. Mondhary

[Signature]
06/07/2020

[Signature]
06/07/2020



ज्ञान-विज्ञान विमुक्तये

डॉ. जितेन्द्र कुमार त्रिपाठी
संयुक्त सचिव

Dr. Jitendra K. Tripathi
Joint Secretary



सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission

(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)

बहादुर शाह जफर मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi-110002
दूरभाष Ph : 011-23239200
E-mail : jitendratrpathi.ugc@nic.in

By Speed Post

F.No.1-1/2013 (CU) Vol-XVIII

November, 2019

The Vice-Chancellor,
Central University of Jammu,
Bagla (Rahya-Suchani),
District Samba, Jammu – 181 143, (J & K)

18.4 NOV 2019

Subject: Approval of teaching posts– reg.

Sir,

This is in reference to your office letter No. CUJ/Regtr/2019/244 dated 08.03.2019, CUJ/VC/PS/15/830 dated 24.05.2019 and CUJ/Acad/Corr-UGC/2019/183 (a) dated 04th June, 2019 regarding the approval of teaching positions. The proposal was placed before the Committee constituted for this purpose on 31.07.2019. The proposal of the university was considered by the Committee. The recommendations of the Committee were placed before the Commission in its 544th meeting held on 16th October, 2019. The Commission considered and approved the recommendations of the Committee. Accordingly, the approval of UGC is hereby conveyed that the Committee considered the proposal of the university and recommended for approval of Department of Earth Sciences in place of Department of Tourism Management as per request of the university.

The expenditure on teaching positions approved for above mentioned departments may be incurred out of the funds provided under salary head (36) of Annual allocation of 2019-20.

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Yours faithfully,

(Jitendra K. Tripathi)

Copy to :

1. F. No.30-1/2019 (CU)
2. Section Officer (Meeting Cell), UGC New Delhi in r/o item No. 2.10 of the 544th Commission Meeting held on 16th October, 2019.

V. Tareja



(Jitendra K. Tripathi)

18.11.19

Department of Environmental Sciences

Sub: Agenda Items for 13th Academic Council Meeting – Reg.

Agenda Item:

No. 25/ERS/2020/210
Dated: 02-07-2020

1. To start the PhD programme in Earth Sciences under the UGC approved Department of Earth Sciences from the ensuing academic session 2020-2021
2. To create new School of Earth and Environmental Sciences which will be comprises of existing Department of Environmental Sciences and approved Department of Earth Sciences.
3. To Approve syllabus of M. Sc and PhD Programme of Environmental Sciences and PhD programme of Department of Earth Sciences.

Background of Agenda Item:

1. UT of Jammu and Kashmir being situated in Himalayan region and has immense potential for the study of work related to Seismology, Water resources, Glaciers studies and climate change.
2. The Department of Environmental Sciences is a part of School of Earth and Environmental Sciences in all the reputed Central Universities of Country.
3. Updating of syllabi as the requirement and feedback. In case of Earth Sciences new syllabus for the proposed PhD programme to be framed.

Justification for Agenda Item:

1. UT of Jammu and Kashmir being situated in Himalayan region and has immense potential for the study of work related to Seismology, Water resources, Glaciers studies and climate change.
2. The Department of Environmental Sciences is a part of School of Earth and Environmental Sciences in all the reputed Central Universities of Country.
3. Updating of syllabi as the requirement and feedback. In case of Earth Sciences new syllabus for the proposed PhD programme to be framed.

Proposal:

1. Starting of PhD programme in new approved Department of Earth Sciences.
2. To create new School of Earth and Environmental Sciences
3. To Approve syllabus

Prof. (Dr.) Deepak Pathania
Head
Deptt of Environmental Sciences
Central University of Jammu



Signature

Name of Head of Department / Centre / Branch Officer:

Recommendation

Dean of School / Wing Officer:



सकाय अध्यक्ष
DEAN

जैविक विज्ञान स्कूल
School of Life Sciences
जम्मू केंद्रीय विश्वविद्यालय
Central University of Jammu

CENTRAL UNIVERSITY OF JAMMU**FEE STRUCTURE**

Applicable w.e.f. Fresh Admission Batch 2020-21

1. ANNUAL FEE (To be increased every year by 5 - 7%)						
Sl. No.	Details	Ph.D.	Post Graduate Courses		Under Graduate Courses	
			1 st Year	2 nd year	1 st Year	Subsequent Year
1	Tuition Fee	-	1575	1575	1575	1575
2	Examination Fee	-	1890	1890	1890	1890
3	Campus Wi-Fi Fee	2000	1200	1200	1200	1200
4	Sports	500	500	500	500	500
5	Student's Welfare	300	300	300	300	300
6	Campus Development and Maintenance	500	500	-	500	-
7	Library	500	500	500	500	500
8	Smart Card	100	100	100	100	100
9	Cultural Events & Celebrations	300	300	300	300	300
10	Magazine Fee	200	200	200	200	200
11	NSS / Community Outreach	300	300	300	300	300
12	Red Cross / Flag Day	25	25	25	25	25
13	Green Initiative / Campaign	100	100	100	100	100
14	Primary Health Care	500	500	500	500	500
15	Student Insurance	125	125	125	125	125
16	UBIC*	100	100	100	100	100
17	UIC	100	100	100	100	100
	Total	5550	8215	7715	8215	7715

* Applicable to the School of Business Studies only

2. ONE TIME FEE AT THE TIME OF ADMISSION (To be increased every Third year by 15%)					
Sl. No.	Details	Ph.D.	Post Graduate Courses		Under Graduate Courses
			1 st Year	2 nd Year	1 st Year
1.	Tuition Fee	5000	-	-	-
2.	Examination Fee	2000	-	-	-
3.	Admission Fee	2000	1000	-	1000
4.	Registration Fee	500	500	-	500
5.	Degree, Certificate and Convocation	1000	1000	-	1000
6.	Alumni Membership Fee	500	500	-	500
7.	Induction Ceremony	500	500	-	500
8.	Research Fee	4000	-	-	-
9.	Thesis / Dissertation Evaluation	5000	-	-	-
	Total	20500	3500	-	3500
10.	Revision of Thesis (if required)	6000	-	-	-

3. TECHNICAL / SCIENCE COURSE FEE (To be increased by 15% every Third year)					
Sl. No.	Details	Ph.D.	1 st Year	2 nd / Subsequent Years	
1.	Training & Placement Fee*	-	6000	4000	* For MBA & M. Tech. courses only
2.	Orientation/Internship Fee	-	4000	4000	* For MBA & M. Tech. courses only
3.	Professional Development Fund	-	2500	2500	* For MBA courses only
4.	Minor project/ Dissertation/ Project**	-	1500	1500	** Applicable to Courses where Minor project/ Dissertation/ Project is prescribed.
5.	Lab Fee***	2000	2000	2000	*** For Physics, Botany, Zoology, Chemistry, Nano Sciences, EVS per annum

4. DEPARTMENT CHARGES			
Sl. No.	Details		
1.	Practicum Fee	2500	Applicable to courses where practicum are part of curriculum e.g. M.Ed. etc.
2.	Local Picnic		(To be decided by the Department concerned)
3.	Educational Studies		
4.	Field Trip		
5.	Industrial visit		

5. PAID UP SERVICES		
Sl. No.	Details	
1.	Electricity Backup	500 per annum
2.	Any other service	as per actuals

6. REFUNDABLE FEE (To be increased by 20% every Fifth year)				
Sl. No.	Details	Ph.D.	Post Graduate Courses 1st Year	Under Graduate Courses 1st Year
1.	Library Security (Refundable)	1500	1500	1500
2.	Lab Security (Refundable)	1000	1000	1000

7. BOARDING / LODGING FEE

Sl. No.	Details	
1.	Accommodation Fee	At present University has hired private owned buildings to accommodate out station students on the basis of merit and distance subject to availability of accommodation at respective Department level. At present, students are paying Rs. 10,000/- per annum accommodation Fee which is subject to revision from time to time. University Hostels: Boy (100 bed) and Girls (100 bed) are under construction at University location. Distance factor will be considered first.



जम्मू केंद्रीय विश्वविद्यालय
Central University of Jammu

राया - सूचानी (बागला), जिला सांबा - 181143, जम्मू (जम्मू एवं कश्मीर)
Rahya-Suchani (Bagla), District Samba - 181143, Jammu (J&K)

Minutes
Committee

Minutes of the meeting of Fee Structure Committee to recommend Fee Structure for various courses offered by the University w.e.f. Academic Session 2020-21 held on 12.03.2020 at 02:30 PM in the Committee Room, Central University of Jammu.

Following were present:

- | | |
|--|-------------|
| 1. Prof. Devanand
Dean, School of Basic & Applied Sciences | Chairperson |
| 2. Prof. Deepak Pathania
Dean, School of Life Sciences | Member |
| 3. Prof. Rasal Singh
Dean, Students Welfare | Member |
| 4. Prof. Mushtaq Ahmed
Dean, School of Humanities and Social Sciences | Member |
| 5. Registrar | Member |
| 6. Finance Officer | Member |

Meeting of Fee Structure Committee constituted vide notification no. 20 of 2019 dated 18.03.2019 was held in the Committee Room, Central University of Jammu at 02:30 PM. The Committee considered the revision of Fee Structure for the academic session 2020-21 in the light of Fee Structure in force since academic session 2019-20. After threadbare discussions, the committee recommended as follows:

- Tuition fees and Examination fee as approved by the Academic Council in its 11th meeting held on 25.03.2019 vide resolution no. 33 may be enhanced by 5%.
- Campus Development and Maintenance Fees may be reduced by half i.e. from Rs. 1000 to Rs. 500.
- Magazine Fees may be reduced by Rs. 100 i.e. from Rs. 300 to Rs. 200.
- Computer and Internet Fee may be renamed as Campus Wi-fi Fee.
- One time fees of Induction Ceremony may be reduced to half i.e. Rs. 1000 to Rs. 500.
- Transport Charges (Optional) under the head 'Paid Up Services' may be omitted since the students are no longer availing the transport access hired by the University from SRTC/ Private Transport agencies.

Signature
12/3

Signature
12/3/20

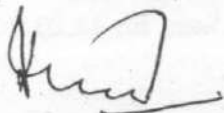
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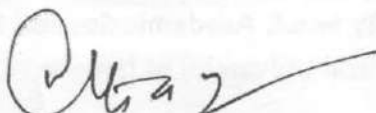
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vi. Detailed Fee structure for UG, PG and Ph.D. courses is placed at Annexure – I.

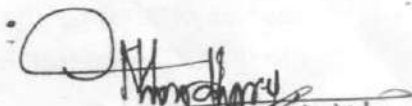
Meeting concluded with thanks to the chair.



Prof. Devanand

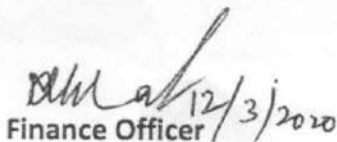


Prof. Deepak Pathania

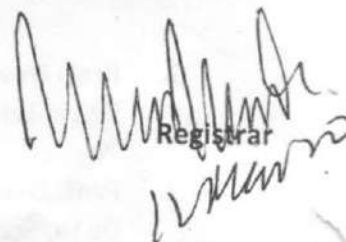


Prof. Mushtaq Ahmed 12/3/20

Prof. Rasal Singh



12/3/2020
Finance Officer



Registrar

विश्वविद्यालय अनुदान आयोग
University Grants Commission

(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)

बहादुरशाह जफर मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi-110002

Ph : 011-23236288/23239337

Fax : 011-2323 8858

E-mail : secy.ugc@nic.in

मानव-संसाधन विभाग

डॉ. राजनीश जैन
सचिव

Prof. Rajnish Jain
Secretary



D.O.No.F.1-1/2018(Journal/CARE)

December, 2019

Respected Sir/Madam,

University Grants Commission in its 543rd meeting held on 9th August, 2019 (approved two Credit Courses for awareness about publication ethics and publication misconducts entitled "Research and Publication Ethics (RPE)" to be made compulsory for all Ph.D. students for pre-registration course work)(attached as Annexure).

In view of the above, you are requested to ensure that the above two Credit courses may be made compulsory for all Ph.D. students for pre-registration course work undertaken in your University from the forthcoming academic session.

With regards,

Yours sincerely,

(Rajnish Jain)

TO THE VICE-CHANCELLORS OF ALL UNIVERSITIES

ANNEXURE

Course Title:

- **Research and Publication Ethics (RPE)**-Course for awareness about the publication ethics and publication misconducts.

Course Level:

- 2 Credit course (30 hrs.)

Eligibility:

- M.Phil., Ph.D. students and interested faculty members (It will be made available to post graduate students at later date)

Fees:

- As per University Rules

Faculty:

- Interdisciplinary Studies

Qualifications of faculty members of the course:

- *Ph.D. in relevant subject areas having more than 10 years' of teaching experience*

About the course

Course Code: CPE- RPE

Overview

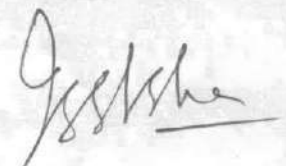
- This course has total 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on-sessions are designed to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

Pedagogy:

- Class room teaching, guest lectures, group discussions, and practical sessions.

Evaluation

- Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.



Course structure

- The course comprises of six modules listed in table below. Each module has 4-5 units.

Modules	Unit title	Teaching hours
Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
Practice		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	Total	30

Syllabus in detail

THEORY

- RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)**
 - Introduction to philosophy: definition, nature and scope, concept, branches
 - Ethics: definition, moral philosophy, nature of moral judgements and reactions
- RPE 02: SCIENTIFIC CONDUCT (5hrs.)**
 - Ethics with respect to science and research
 - Intellectual honesty and research integrity
 - Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
 - Redundant publications: duplicate and overlapping publications, salami slicing
 - Selective reporting and misrepresentation of data
- RPE 03: PUBLICATION ETHICS (7 hrs.)**
 - Publication ethics: definition, introduction and importance
 - Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
 - Conflicts of interest
 - Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
 - Violation of publication ethics, authorship and contributorship
 - Identification of publication misconduct, complaints and appeals
 - Predatory publishers and journals

PRACTICE

- RPE 04: OPEN ACCESS PUBLISHING(4 hrs.)**
 - Open access publications and initiatives

J. S. D. A.

2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
3. Software tool to identify predatory publications developed by SPPU
4. ~~Journal finder / journal suggestion tools viz. IANE, Elsevier Journal Finder, Springer Journal Suggester, etc.~~

• **RPE 05: PUBLICATION MISCONDUCT (4hrs.)**

A. Group Discussions (2 hrs.)

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

B. Software tools (2 hrs.)

Use of plagiarism software like Turnitin, Urkund and other open source software tools

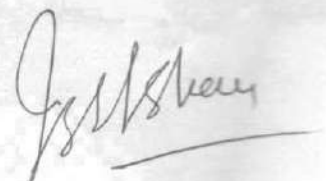
• **RPE 06: DATABASES AND RESEARCH METRICS (7hrs.)**

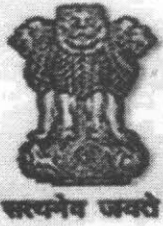
A. Databases (4 hrs.)

1. Indexing databases
2. Citation databases: Web of Science, Scopus, etc.

B. Research Metrics (3 hrs.)

1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
2. Metrics: h-index, g index, i10 index, altmetrics





विश्वविद्यालय अनुदान आयोग
University Grants Commission
मानव संसाधन विकास मंत्रालय, भारत सरकार
(Ministry of Human Resource Development, Govt. of India)
बहादुर शाह जफर मार्ग नई दिल्ली- 110002
Bahadur shah Zafar Marg, New Delhi - 110002



Annexure - XXIV

F.No.1-2/2019 (Chairs)


December, 2019

PUBLIC NOTICE

06 DEC 2019

Subject: Establishment of Chairs in universities

UGC is going to establish Ten(10) Chairs in different universities in the name of Eminent Women Academicians/ Administrators/ Artists/ Scientists/ Environmentalists/ Social Reformers etc. funded by Ministry of Women and Child Development, Government of India. The eligible universities desirous of setting up Chairs may send the detailed proposal including the annual budget to Dr. Jitendra Kumar Tripathi, Joint Secretary(Chairs), University Grants Commission, Bahadurshah Zafar Marg, New Delhi-110 002 within 21 days from the date of publication of this notice. For more details of the scheme kindly log on to www.ugc.ac.in.


(Prof. Rajnish Jain)
Secretary, UGC



CUS/ Acad/ 2-16/ 4/ 2020

CENTRAL UNIVERSITY OF JAMMU
RAHYA-SUCHANI (BAGLA), SAMBA DISTRICT, JAMMU
JAMMU AND KASHMIR-181143

No. CUJ/^{Reg.}Acad/2019/ 367

26 December 2019

Dr. Jitendra Tripathi
Joint Secretary,
University Grants Commission,
(Ministry of Human Resource Development, Govt. of India)
Bahadur Shah Zafar Marg,
New Delhi-110002

Sub: Proposal for the Establishment of the Chair on the name of Lal Ded/Lalleshwari-Reg.

Ref: UGC Ref. No.: F.No.1-2/2019 (Chairs) Dated 06th December, 2019

Sir,

Please refer to UGC letter under reference. In this regard, I am forwarding herewith the proposal for the establishment of the chair on the name of **Lal Ded/ Lalleshwari** in Central University of Jammu for your kind perusal and consideration.

Yours sincerely,

Registrar

कुलसचिव

Registrar

जम्मू केंद्रीय विश्वविद्यालय

Central University of Jammu



CENTRAL UNIVERSITY OF JAMMU

RHAYA-SUCHANI (BAGLA), SAMBA DISTRICT, JAMMU
JAMMU AND KASHMIR – 181143

PROPOSAL FOR THE ESTABLISHMENT OF THE CHAIR

1. NAME OF THE UNIVERSITY : Central University of Jammu
2. ADDRESS : Rahya Suchani (Bagla)-Samba
Jammu (J&K)-181143
3. STATE : Jammu & Kashmir
4. TYPE OF UNIVERSITY : Central University
5. WHETHER ELIGIBLE TO RECEIVE
GRANT-IN-AID FROM UGC : Yes
6. NAME OF THE PROPOSED CHAIR : Lal Ded/Lalleshwari
7. PROPOSED ACTIVITIES : Details attached
8. TIME LINE FOR ACTIVITIES PROPOSED
INCLUDING SELECTION OF CHAIR
PROFESSOR : Details Attached
9. ANNUAL BUDGET : Rs. 5000000/-
10. NAME AND CONTACT DETAILS OF
THE CONCERNED PERSON : Professor Rasal Singh, HOD,
Department of Hindi and Other
Indian Languages
+91-8800886847

Submitted by

Prof. Rasal Singh, HOD,

Dept of Hindi and Other Indian Languages

+91-8800886847, rasal_singh@yahoo.co.in

Head
Department of Hindi & Other
Indian Languages
Central University Jammu
rasal_singh@yahoo.co.in

Forwarded by

Registrar, Central University of Jammu

कुलसचिव
Registrar
जम्मू केंद्रीय विश्वविद्यालय
Central University of Jammu



CENTRAL UNIVERSITY OF JAMMU
RHAYA-SUCHANI (BAGLA), SAMBA DISTRICT, JAMMU
JAMMU AND KASHMIR – 181143

DETAILED PROPOSAL FOR LAL DED/ LALLESHWARI CHAIR

INTRODUCTION TO THE PROPOSED CHAIR

Kashmir is world famous for its great Historiographers, Philosophers, Grammarians, Aesthetes and Mystics. As a laboratory of inter-religious and inter-cultural dialogue in which some of the major world religions participated, it is unique in the world. Traditionally it has been called Śārda-Pitha. But in this land of knowledge, this paradise of aesthetes, philosophers and mystics, today there is very little in the name of infrastructure to preserve, consolidate and develop the great legacy that made Kashmir world centre of Knowledge in ancient and medieval times. It is a well-known fact that the Fourth Buddhist council was held here during the first/second century AD in which Buddhist scholars from all parts of the Buddhist world participated. Indian Literature without the contribution of Jammu and Kashmir would be hollow. Jammu and Kashmir has produced scholars of Sanskrit Kavya Shastra: Vamana, the founder of the *Riti Siddhant* and Udbhatta, the teacher of different theories of Riti; Rudratta, Ananda Vardhana, Mamnatta and Abhinavgupta, Kayyatta, Ruyyaka and Mahima Batta-all were Kashmiris. Anand Vardhana is the founder of *Dhvani Siddhant* and Mammatta of *Rasa Siddhant*. Abhinavgupta's doctrine is that Rasadhvani is the soul of Literature. Patanjali was also a Kashmiri. Thus Kashmir has given a lot to the Indian Poetics and Literature. Kashmir has produced many scholars and mystics. The cultural life of Kashmir has had the impress of great mystics. The main language of Kashmir is Kashmiri. It is said that it is a mixed language and the greater part of its vocabulary is of Indian origin and it is allied to that of Sanskrit-Indo-Aryan languages of Northern India.

Lal Ded /Lalleshwari lived in 14th century in Kashmir. She was born in Padampur (modern Pampore) at a distance of 17miles from Srinagar. Lalleshwari's marriage in a traditional Kashmiri Pandit family appears to have failed and she became **recluse** By the time lalleshwari evolve her philosophy, Saivism had become very popular with Kashmiri Hindus and as it essentially spoke about the communion between man and creator, eschewing the

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intermediary, common Kashmiri Hindus were deeply impacted by it. Lalleshwari is called the first saint poetess of Kashmir who gave bent to Shaivist thoughts in Kashmiri Language in poetic terms called 'Vakh'. It needs to be explored who form the audiences of Lalleshwari poetry and why did she lay so much stress on exclusion of intermediaries between man and his creator. We need to interpret poetry in terms of a revolt against existing or imported concepts that did not help conciliation between the creator and the created. Lalleshwari's poetry is aphorism and its interpretation is dimensional, therefore in the history of Indian philosophy and divinity Lalleshwari occupies a prominent place.


This great ancient spiritual tradition is still alive and vibrant in the poetry of the mystic poets of Kashmiri language who are popularly known as Sufi poets. Right from the fourteenth century mystic poets Lal Ded and Nund Rishi to the twentieth century poets like Samad Mir and Ahad Zargar the Buddhist and Saivite concepts are predominant and foundational. There is a need to appropriate this tradition and to demonstrate that it is an essential part of the Indian cultural mosaic. There is an urgency to ensure that Kashmir is not delinked from its great ancient traditions and shared pluralistic culture. Thus, the social reformations and educational ideas of Lal Ded would serve as an inspiration to bring peace, love, justice, harmony, spirit of tolerance and mutual appreciation in the country in general and in the state in particular.

MISSION OF THE PROPOSED CHAIR

The mission of Lal Ded/Lalleshwari chair (proposed chair) is to bring spiritual awakening, social awareness, harmony, spirit of tolerance and mutual appreciation among the people in the context of religious pluralism and multicultural ethos particularly in the state of Jammu and Kashmir.

IMPORTANCE AND RELEVANCE OF THE PROPOSED CHAIR

The proposed chair in the name of Lal Ded/Lalleshwari is quite significant and relevant for the Jammu and Kashmir. Jammu and Kashmir have a multi-faceted, multi-religious (Kashmir Saivism, Buddhism, Islam, Sufism and Sikhism etc) and multi-ethnic culture. What is happening in Kashmir right now has a huge impact in the regions of Jammu and Kashmir, and there is a drift among the regions. This drift is not a good omen for the



unity and the integrity of the state and the country as a whole. We have to fight these disruptive forces at all levels. The establishment of the proposed chair would be a significant intervention in this regard.

AIMS AND OBJECTIVES OF THE PROPOSED CHAIR

- To introduce the life and ministry of Lal Ded/Lalleshwari to the research scholars and students irrespective of the branch of knowledge.
- To highlight the revolutionary thought of Lal Ded/Lalleshwari on Social, Cultural and human values.
- To highlight the teachings of Lal Ded/Lalleshwari on Spirituality and Ethics to enrich the holistic life of people.
- To adopt the insights of Lal Ded/Lalleshwari to promote peace, harmony, spirit of tolerance and mutual appreciation in the country in general and in the state in particular.
- To achieve these tasks through academic channels- such as inter-religious dialogues, seminars, extension lectures and publications of books, articles etc.

RESEARCH UNDER THE PROPOSED CHAIR

The proposed chair will give importance to the major and minor research projects in the thrust areas like Literature, Spirituality, Social and political Awareness, Ethics, Inter-religious Dialogue, Inter-faith Co-operation, etc. The products of this research will be published during the tenure of the proposed chair.

ACADEMIC PROGRAMMES UNDER THE PROPOSED CHAIR

The proposed chair will actively involve in the following academic programmes:

- Offering Inter Disciplinary Courses on the life and teachings of Lal Ded for the research scholars, students who enroll themselves in various programmes in the Central University of Jammu.
- Offering Diploma and Certificate courses on the teachings like social awareness, spirituality, and ethics, etc; to the regular students of the university and the public at large.
- Organizing international, national and regional conferences, seminars and workshops from time to time for the advancement of academicians, social workers, and the



people who actively participate in social development in the region of Jammu and Kashmir.

- Organizing Lecture Series (*Vyakhyanmala*) on Lal Ded/Lalleshwari.
- Translating and interpreting the teachings of Lal Ded/Lalleshwari that are found in manuscripts, books and articles into Indian vernacular languages like Hindi, Dogri, Pahari and Gojri etc.

EXTENSION SERVICES, UNDER THE PROPOSED CHAIR

- The proposed chair will extend the services to the public at large by organizing significant conferences by inviting reputed scholars and popular speakers to highlight the Literary, philosophical, spiritual and moral values of Lal Ded/Lalleshwari.
- The proposed chair will set up a "Cultural Museum" in the name of Lal Ded to exhibit the importance of Spirituality, Morality and Humanity at large.
- The proposed chair will collaborate with other Departments/ Centers/ Chairs which already exists in the name of Lal Ded/Lalleshwari, for the realization of its goals.

FURTHER ENHANCEMENT OF THE PROPOSED CHAIR

The further enhancement of the proposed chair will be propagating the life, works, mission, and the core values of Lal Ded in the South Asian countries by collaborating with the Departments of Religious Studies, Cultural Studies of different Universities and Educational Institutions in South Asia.

LOCATION AND FUNCTION OF THE PROPOSED CHAIR

The proposed chair will be located and function under the Department of Hindi and Other Indian Language of the Central University of Jammu.

REQUIRED STAFFING OF THE PROPOSED CHAIR (ACADEMIC / NON-ACADEMIC)

To successfully achieve the proposed chair's aims and objectives the chair need the following staff;

S. No.	Name of the Post	No. of post	Consolidated Pay
1.	Lal Ded Chair Professor	One	Rs.144200 (Pay matrix level 14)/Per month



2.	Chair Research Fellow	One	Rs. 35000/per Month
3.	Secretarial Assistant (SA)	One	Rs.15000/per month

Against each of the above referred posts, persons shall be recruited in accordance with the Statutes, Rules and Regulations followed by the Central University of Jammu. In respect of service matters, the staff functioning under the Chair shall be governed by the Rules and Regulations and Statutes followed by the University.

- LAL DED/LALLESHWARI CHAIR PROFESSOR:** It would be necessary that a person with proven credentials having sufficient qualifications in the relevant discipline/subject should be appointed the Lal Ded/Lalleshwari Chair Professor. He/she shall be appointed by following the same procedure which is applicable for selection of full time Professor in the Central University of Jammu. Academic qualifications, experience, age limit, etc. to be followed in this regard shall be similar to those which are applicable for selection to the post of a Chair Professor according the guidelines of UGC. The Professor should possess adequate knowledge and working experience about thoughts and works and should possess proven commitment to propagate the mission and core values of Lal Ded/Lalleshwari to carry out the aims and objectives of the proposed chair.
- CHAIR RESEARCH FELOW:** Chair Research Fellow shall be appointed by selection committee nominated by the Central University of Jammu and the consolidated pay / Remuneration will be paid from the fund which will be sanctioned from the UGC for the proposed chair. The Chair Research Fellow shall work under the overall supervision, guidance and administrative control of the Professor of Lal Ded/ Lalleshwari proposed Chair.
- SECRETARIAL ASSISTANT (SA):** These positions shall be appointed by selection committee nominated by the Central University of Jammu and the consolidated pay / Remuneration will be paid in according to the norms of UGC from the fund which will be sanctioned from the UGC for the proposed chair.

MONITORING OF THE PROPOSED CHAIR



- For regular monitoring and periodic review of the work of the Chair, the University would set up two Committees as follows;
- Performance Appraisal Committee- For regular monitoring
- A Review-cum-Evaluation Committee- For periodic evaluation

SUBMISSION OF ANNUAL REPORTS, AUDITED UTILIZATION CERTIFICATE AND STATEMENT OF ACCOUNTS

The proposed Chair shall publish Annual Report highlighting the activities undertaken in various fields. It will also submit Annual Report to the UGC showing the utilization of funds released to them. Accounts and Financial transactions of the proposed Chair shall be audited in the same manner as the accounts of the University are audited once in a year and a statement showing the detailed audited account shall be submitted to the UGC as soon as the accounts are audited.

The topics for the research projects, seminars/workshops, lectures, discussions, training programmes etc. may be decided in consultation with the Department of Hindi and Other Indian Languages of the Central University of Jammu under which the proposed chair will be established.

FUNDING OF THE PROPOSED CHAIR

Grant-in-aid of Rs. 50 Lakh per year would be released to the proposed chair to carry out its activities as provided under this Scheme as well as Memorandum of Understanding. For establishing the Chair, one time grant of Rs. 10 Lakh shall be released to kick-start the activities and purchase of furniture, computers etc. and to meet the initial establishment cost. The broad heads/ items under which the annual grants of Rs. 50 Lakh shall be spent are shown in the annexure.

ADMINISTRATION OF THE PROPOSED CHAIR

The Scheme of establishment and management of Lal Ded /Lalleshwari Chair shall be administered by Central University of Jammu. Guidelines and instructions issued by the UGC from time to time shall be final and binding and required to be strictly followed in carrying out the stipulated objective of the Chair. The Chair will function as an integral part of the Department of Hindi and Other Indian languages, Central University of Jammu under which it is set up. For all day to day administrative and academic purposes, Professor heading Lal Ded/Lalleshwari Chair shall report to the Head, Department of Hindi and Other Indian languages of the University under which it is established. The University will set up an

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advisory Committee consisting of three persons of the concerned Stream under the chairmanship of the Head, Department of Hindi and Other Indian languages to advise about the activities of the Chair.

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ANNEXURE

DETAILS OF HEADS/ SUB-HEADS UNDER WHICH THE ANNUAL GRANT WILL BE UTILIZED BY THE CHAIR

The total estimated expenditure is Rs. 50 Lakh per annum. Break-up of estimated expenditure of Rs.50 Lakh is as under:-

A. Salaries of the staff working under the Chair

S.N.	Name of the post	Pay Scale/ Consolidated Pay	Emoluments/ Grants Per year
1.	Lal Ded Chair Professor	Rs.144200 (Pay matrix level 14)/Per month	Rs. 2400000/- (Approx)
2.	Chair Research Fellow	Rs. 35000/per Month	Rs. 420000/-
3.	Secretarial Assitant (SA)	Rs.15000/per month	Rs. 180000/-
		Total	Rs. 30,00,000/-

B. Activities of the Chair

1. Research Work (Long/ Short term)*	Rs. 5,00,000/-
2. Research through students/ supervision of M. Phil./ Ph.D/ PDF etc.	Rs. 2,00,000/-
3. Organization of Seminar/ Workshop*, etc.	Rs. 3,00,000/-
4. Lectures* (Lal Ded/Lalleshwari Lecture Series).	Rs. 2,00,000/-
5. Publication of Books/ Translation/Articles/Journals	Rs. 2,00,000/-
6. Awareness/ Extension/ Training Programme(s)*	Rs. 1,00,000/-
7. Participation in Seminar(s)/ Conference(s)	Rs. 1,00,000/-
8. Purchase of Books/Journals/Source Material	Rs. 1,50,000/-
9. Discussion/ Dialogues.*	Rs. 50,000/-
10. Inter-Chair Collaborative Programmes	Rs. 75,000/-
11. Phone/Fax/Stationery	Rs. 50,000/-
12. Contingency	Rs. 75,000/-
Total	Rs. 20,00,000/-
Grand Total (A+B)	Rs. 50,00,000/-

* The topics for the research projects, seminars/workshops, lectures, discussions, training programmes etc. may be decided in consultation with the Department of Hindi and Other Indian Languages of the Central University of Jammu under which the proposed chair will be established.