

COURSES OF STUDIES
For
MASTER OF SCIENCE EXAMINATION
(With Effect from the Session 2023-24 and onwards)

BOTANY

(Under Choice Based Credit System)



Maharaja Purna Chandra (Autonomous) College,
Takhatpur, Baripada 757003, Mayurbhanj



Affiliated To

MAHARAJA SRIRAM CHANDRA BHANJA DEO UNIVERSITY
Sriram Chandra Vihar, Takatpur, Baripada-757003

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M.Sc. (BOTANY)

(Choice Based Credit System)

- I. The course is of two years duration comprising of four semesters of theory and laboratory works.
- II. There is one open elective (OE-BOT 305) in semester-III. This paper is open for other departments. Students of this department in semester –III will choose one open elective from other department.
- III. Each student has to carry out project work from Semester-IV and submit a dissertation before the commencement of Semester-IV theory examination.
- IV. The student can opt one elective course comprising of two papers in the 2nd year of PG programme.
- V. The theory examination shall be held for 80 marks (3 hours) and one Mid-Semester/ Internal Assessment Examinations (IAE) of 20 marks (1 hour). The questions shall be of unit pattern, having equal marks, with two alternatives from each unit.
- VI. For IAE, question shall be asked at least from any two units of a paper covered and will be of one hour duration. The durations of the practical examination shall be 6hours.
- VII. In order to pass a semester examination a candidate must have to secure a minimum of 40% marks in both practical & theory papers in each semester.
- VIII. If candidate passes all the four semester examinations he/she will be declared to have passed the M.Sc. (Semester) examinations in Botany, provided further that in no case a candidate shall be allowed to appear any Semester Examination after twice the duration of course period.
- IX. In order to be eligible to appear at the University examination, a student has to secure at least 75% of attendance.

Programme outcome:

- The students will acquire basic knowledge on plant diversity, conservation and utilization of phyto-resources and role of plant community in protection of environment.
- They will be able to contribute towards present day struggle for climate change, global warming, restoration and reclamation of waste land for crop production and inventorisation of plants for new phytochemicals & drugs.
- They will be equipped with adequate technical and analytical skill to pursue their further studies and to develop continuous learning throughout their professional career.
- They will be able to compete national and state level tests like UGC-CSIR NET, ICAR- NET, UPSC, OPSC and SSB etc.
- They will acquire motivational forces for higher study and research related to applied field of plant sciences.

Programme Specific Outcome:

- The student will understand both the basic and applied branches of plant sciences namely Biosystematics, Environmental Sciences, Plant Biotechnology, Plant Physiology & Biochemistry and Microbiology.
- Systematic study of selected taxa will explore the knowledge on the taxa including genetic diversity and molecular phylogeny which will be helpful for conservation & sustainable utilization of those taxa.
- They will develop creative thinking and problem solving capabilities through mentor system.
- They will be able to involve in the environment programmes, launched by UNEP through inspirational and motivational ethics.
- They will understand the subject in detail through the elective courses such as Biosystematics, Environment Pollution and Management, Biochemistry and Plant Tissue culture.
- They will acquire knowledge for reintroduction and conservation of rare, endemic and threatened (RET) taxa through plant tissue culture technique.
- They will motivate towards research in plant sciences through the dissertation work in both field and laboratory based exposure.

(Effective from the academic session 2023-24 and onwards)

Semester –I

Code	Course Title	Credit	Marks
BOT 101	Plant Diversity-I	5	100 (80+20)
BOT 102	Biochemistry	5	100 (80+20)
BOT 103	Cell & Molecular Biology	5	100 (80+20)
BOT 104	Ecology & Biodiversity	5	100 (80+20)
BOT 105	Practical pertaining to papers 101, 102, 103 & 104	5	100
	Total	25	500

Semester—II

Code	Course Title	Credit	Marks
BOT 201	Plant Diversity-II	5	100 (80+20)
BOT 202	Genetics & Plant Breeding	5	100 (80+20)
BOT 203	Plant Anatomy & Embryology	5	100 (80+20)
BOT 204	Plant Systematics & economic botany	5	100 (80+20)
BOT 205	Practical pertaining to papers 201, 202, 203 & 204	5	100
	Total	25	500

Semester—III

Code	Course Title	Credit	Marks
BOT 301	Plant Physiology & Metabolism	5	100 (80+20)
BOT 302	Plant Biotechnology & Genetic Engineering	5	100 (80+20)
BOT 303	Research Methodology	5	100 (80+20)
BOT 304	Practical pertaining to papers 301, 302 & 303	5	100
OEC-BOT 305	Open Elective Course (OEC)	5	100
	Total	25	500

Semester—IV

Code	Course Title	Credit	Marks
BOT 401	Ethnobotany	5	100 (80+20)
	Discipline Specific Elective – I		
BOT 402-A	Microbes & Microbial techniques-I	5	100 (80+20)
BOT 402-B	Microbes & Microbial techniques-II	5	100 (80+20)
	Discipline Specific Elective – II		
BOT 403-A	Environmental Science-I	5	100 (80+20)
BOT 403-B	Environmental Science-II	5	100 (80+20)
BOT 404	Practical pertaining to papers 402/403	5	100
BOT 405	Dissertation pertaining to theory paper 402/403	5	100
	Total	25	500

Grand Total of Four Semesters

100 2000

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SEMESTER-I

BOT-101 Plant Diversity-I

Full Mark: 100

Course objective: To acquaint the knowledge on microbes, Algae and Fungi with respect to Plant pathogenicity and human welfare.

Content:

UNIT-I

(20)

- History and scope of microbiology. Bergy's manual for classification of microbes. Structure, Nutrition and Reproduction of Eubacteria. General accounts of Archaea. General features and pathogenicity of *Mycoplasma*, *Actinomycetes* & *Rickettsia*. Economic importance of Bacteria.
- General properties, structure and classification of viruses, viral multiplication. Economic importance of viruses. Viroids, Prions,

UNIT-II

(20)

- General characteristics of Algae. Pigmentation in algae, Modern system of classification. salient features and life cycles in Cyanophyta, Chlorophyta, Bacillariophyta, Xanthophyta, Phaeophyta and Rhodophyta. Beneficial and harmful aspects of Algae.

UNIT-III

(20)

- General characteristics & classification of Fungi. Structure and reproduction of Phycomycetes, Ascomycetes, Basidiomycetes and Deuteromycetes. Degeneration of sexuality in fungi, Fungal nutrition, heterothallism, heterokaryosis. Application of fungi in industries, agriculture and medicine.

UNIT-IV

(20)

- Concepts of phytopathology, Disease symptoms, modes of infection and dissemination, disease resistance and defense – morphological and biochemical basis, host-parasite relationship.
- Disease-cycle, preventions & control of plant diseases: Citrus canker, Tobacco mosaic, smut of sugarcane, Blight of rice, Blight of Potato, Powdery mildew of pea.

Course Outcome: Upon successful completion of this course student will be able to acquire basic knowledge on microbial diversity, Algal diversity and Fungi diversity. A detailed knowledge can be obtained on phytopathology and applications for human benefits.

SEMESTER-I

BOT-102 Biochemistry

Full Mark: 100

Course objective: The course aims to educate student on basic fundamentals of biochemistry, structure, properties and metabolism of various bio-molecules such as carbohydrates, proteins, lipids and enzymes.

Content:

UNIT-I

(20)

- Amino acids: Classification and properties. Acid–base properties. The Peptide bond, ionization behavior of peptides.
- Levels of protein structure, Determination of primary structure of protein. Three dimensional structure of proteins (Secondary, tertiary and quaternary structures, structural patterns: motifs and domains), Ramchandran Plot.

UNIT-II

(20)

- Carbohydrates: Classification, configuration and conformation of monosaccharides, sugar derivatives, important disaccharides. Structural and storage polysaccharides, glucosaminoglycans, proteoglycans, glycoproteins and glycolipids
- Carbohydrate metabolism: Gluconeogenesis, glycogen metabolism, regulation of carbohydrate metabolism,

UNIT-III

(20)

- Enzymes: General properties, nomenclature and classification, Michaelis-Menten kinetics and its significance, Brigg's-Halden modification, determination of V_{max} and K_m .
- Mechanism of enzyme action: general acid-base catalysis, covalent catalysis, metal catalysis Mechanism of action of RNase, Lysozyme and Chymotrypsin
- Enzyme inhibition: competitive, non-competitive, uncompetitive inhibition, determination of K_i , allosteric regulation, covalent modification

UNIT-IV

(20)

- Lipids: Classification, storage lipids, structural lipids (glycerophospholipid and sphingolipids), signaling lipids, cofactors, terpenes, and pigments. Coenzymes and vitamins.
- Biosynthesis and oxidation of fatty acids, regulation of fatty acid metabolism.

Course Outcome: Students will be learning about concepts of biochemistry including metabolism and bioenergetics. Students will gain knowledge on structure and properties of carbohydrate, proteins, lipids and secondary metabolites. Students will earn the basics of enzyme kinetics and regulation of enzyme activity.

SEMESTER-I

BOT-103 Cell & Molecular Biology

Full Mark: 100

Course objective: The objective of the present course content is to provide a foundation and background of cellular structure, cell organelles & Nucleic acid in relation to their functions and regulatory mechanisms.

Content:

UNIT-I

(20)

- Cell Wall: Structure & functions, biogenesis, growth. Plasma membrane: Composition and dynamics. Transport across cell membrane. Cell junction, cell adhesion and extracellular matrix. Cytoskeleton: Microtubules, intermediate filaments and microfilaments.
- Plant Vacuole: Tonoplast membrane, ATPases, transporters as storage organelle
- Biogenesis, structure, genome organization of Chloroplast & Mitochondria.

UNIT-II

(20)

- Nucleus: Structure and function of nuclear envelope, nuclear pore complex, nucleolus & Chromatin organization and its packaging. Nuclear transport.
- Cell cycle: Molecular models and events. Regulators and checkpoints in cell cycle. Molecular mechanisms of cell division: Mitosis (Behavior of chromosomes, formation of mitotic spindle, Sister chromatid separation), Cytokinesis (Role of mitotic spindle in determining cytoplasmic cleavage site), Meiosis: Events & mechanism.

UNIT-III

(20)

- DNA replication: Replication in prokaryotes, replication fork, initiation, elongation, termination, Replication in eukaryotes, Various models of replication, DNA Repair: mismatch repair, base excision, nucleotide excision, direct repair, SOS repair.
- Transcription: Mechanism of Prokaryotic & Eukaryotic transcription and their regulation. RNA polymerases structure and assembly, Eukaryotic promoters and enhancers, General and specific transcription factors, transcriptional repressors, mechanism of transcription regulation (The Operon concept, lac- & trp-operon), Transcriptional and post-transcriptional gene silencing.

UNIT-IV

(20)

- Modifications in RNA: 5'-capping, polyadenylation, splicing, RNA editing, Processing of t-RNA and r-RNA.
- Prokaryotic and eukaryotic translation: The translation machinery, mechanism of initiation, elongation and termination. Post translational modification of proteins..
- Cell Signaling: Signaling molecules and signal receptors, second messengers, G protein coupled receptors, activation of gene transcription by G protein coupled receptors.

Course Outcome: The students will be learning about the structure and function of cell wall and plasma membrane, cell organelles such as chloroplast, mitochondria and others. Student will be able to understand the central dogma of life through detail study of DNA, RNA & cell signaling.

SEMESTER-I

BOT-104 Ecology & Biodiversity

Full Mark: 100

Course objective: To Know about the principles of ecology, ecosystem & biodiversity.

Content:

UNIT-I (20)

- Concept of Ecology, Structure and function of ecosystem; trophic organization, food chain, food web & ecological pyramid. Principles and models of Energy flow, Production and productivity, methods of measuring productivity.
- Biogeochemical cycles - Carbon, Nitrogen, Sulphur and Phosphorus.

UNIT-II (20)

- Habitat and Niche; Concept, niche width & overlap, fundamental and realized niche, resource partitioning, character displacement.
- Community ecology: nature, structure and gradient analysis, community characteristics & Raunkiaer's life forms, level of species diversity and its measurement. Ecotone and edge effect.
- Succession - models of succession (monoclimax and polyclimax theories), Mechanism of succession in natural communities - facilitation, tolerance, and inhibition.

UNIT-III (20)

- Biotic interactions: positive and negative interactions.
- Population ecology: Basic concept, population characteristics; growth curves, population regulation, life history strategies (r&k selection). Concept of metapopulation, age structured populations.
- Major terrestrial biomes, theory of island Biogeography. phytogeographical zones of India.

UNIT-IV (20)

- Biodiversity: Concepts and level (α , β , γ), importance of biodiversity, status of biodiversity in India, major causes of biodiversity loss and its impact, biodiversity hot spots of India and world, IUCN categories of threat, red data book, convention of biological diversity (CBD), salient features of biodiversity Act.
- Conservation: Strategies for *in situ* Conservation: Protected areas, wildlife sanctuaries, national parks, biosphere reserve, strategies for *ex situ* conservation: botanical gardens, field gene banks, seed banks, *in vitro* conservation, DNA banks, national and international strategies for conservation of plant genetic resources, sustainable development in biodiversity.

Course Outcome: Students will be able to understand the principles of ecology, components of ecosystem and cycling of nutrients. They will be able to learn the methods of assessing vegetation quantitatively and also acquire knowledge on Biodiversity and its conservation.

SEMESTER-I

[Practical pertaining to papers 101, 102, 103 & 104]

BOT-105

PRACTICAL

Full Mark: 100

1. Staining techniques for microorganisms (Basic staining, Negative staining, Gram staining, Acid fast staining, Lactophenol cotton blue staining).
2. Study of microbial growth.
3. Identification of algal samples through temporary mounting.
4. Separation and identification of algae from mixed population.
5. Preparation of temporary and permanent slides and study of vegetative and reproductive structures of members of Fungi & Algae
6. Preparation of temporary and permanent slides lichen.
7. Extraction of pigment from leaves and preparation of absorption spectra for chlorophylls and carotenoids.
8. Preparation of standard curves for quantification of protein, carbohydrate and reducing sugar.
9. Quantification of soluble and total protein and total carbohydrate contents of plant samples.
10. Demonstration on pre-treatment, fixation, staining and squashing technique for cytological analysis
11. Study of different stages of Mitosis and Meiosis of *Allium cepa*
12. Determination of minimum size of the quadrat by Species Area Curve method.
13. Determination of Frequency, Density and Abundance of different species in a grassland community.
14. Museum specimen of bacterial disease (citrus canker) viral disease (tobacco mosaic), Fungal diseases (Blight of rice, powdery mildew of pea, blight of potato, Blast of rice)

SEMESTER-I

Recommended Books:

1. **Microbiology-An Introduction:** GJ Tortora, BR Funck & CL Case: The Benjamin/Cummings Publishing Company, Inc.
2. **Microbiology:** Klein, Harley & Prescott: John Wiley
3. **Microbiology: Principles & Experiments:** JG Black: Benjamin/Cummings Publishing Company, Inc.
4. **Microbiology:** TD Brock: Benjamin/Cummings Publishing Company, Inc.
5. **General Microbiology:** Stanier: Blackwell Scientific Publication
6. **Basics of Plant Virology:** HN Verma: Oxford IBH Publishing Company
7. **Introductory Phycology:** HD Kumar: Affiliated East-West Press, New Delhi
8. **An Introduction to the Algae:** I. Morris: Cambridge University Press
9. **The Biology of Algae:** FE Round: Cambridge University Press
10. **Introductory Mycology:** CJ Alexopoulos & C.W. Mims: John Wiley
11. **An Introduction to Mycology:** RS Mehrotra & RS Aneja: New Age Intermediate Press
12. **Introduction to Fungi:** J Webster: Cambridge University Press
13. **Fungi:** BR Vashistha & AK Sinha: S. Chand & Company
14. **Plant Pathology:** Mehrotra, R.S. - Tata McGraw Hill Publishing Co. New Delhi .
15. **Genes X:** Benjamin Lewin: Oxford IBH
16. **Cell & Molecular Biology: Concepts & Experiments:** G. Karp: John Wiley
17. **Molecular Biology of the Cell:** Alberts, Bray, Lewis et al: Garland Publisher
18. **Essentials of Molecular Biology:** MD Freifelder: Jones & Barlet Publisher
19. **Molecular & Cellular Biology:** SL Wolfe: Wadsworth Publishing
20. **Molecular Cell Biology:** H Lodish et al: WH Freeman, New York
21. **Cell & Molecular Biology:** De Robertis & Robertis: Blackwell
22. **Cell Biology-Fundamentals:** PK Gupta: Rastogi Publication
23. **Biochemistry and Molecular Biology of Plants:** Buchanan. B.B., Guissem, W. and Jones RL., American Society of Plant Physiologist, Maryland, USA
24. **Molecular Cell Biology:** Lodish, H., Berk, A., Zipurski S.L. Matsudaire, P. Baltimore, D and Darnell J., W.H. Freeman and Co. New York, USA
25. **Practical Application of Plant Molecular Biology:** Henry R J., Cuapman and Hall
26. **Annual Review of Plant Physiology and Molecular Biology:** annual review of Biochemistry, Academic Press
27. **Lehninger Principles of Biochemistry,** D. Nelson and M. Cox, Macmillan Worth Publishers
28. **Biochemistry,** Stryer, W.H. Freeman & Co.
29. **Fundamentals of Ecology:** EP Odum: Saunders
30. **Concepts of Ecology:** EJ Kormondy: Prentice Hall
31. **Ecology: Principles & Application:** JL Chapman, MJ Reiss: Cambridge Univ.
32. **Text book of Biodiversity:** K V Krishnamurthy: CRC Press
33. **Measuring Biological diversity:** A.E. Magurran: Blackwell publishing
34. **Biodiversity: An introduction:** Second Edition: Kevin J Gaston and John I. Spicer: Blackwell publishing
35. **Ecology:** Ricklefs and Miller: Fourth Edition: W. H. Freeman
36. **Ecology: Theories and Applications:** Peter Stiling
37. **Ecology: From Individuals to Ecosystems:** Begon, Townsend and Harper
38. **Ecology:** E.O. Wilson

SEMESTER-II

BOT-201 Plant Diversity-II

Full Mark: 100

Course objective: To acquire the basic knowledge on classification, reproduction and economic importance of Bryophytes, Pteridophytes & Gymnosperms.

Content:

UNIT-I

(20)

- Bryophyta: Theories of origin (algal and pteridophytean), Ecology, Evolution and Classification, Structure and reproduction of Anthocerotales, Marchantiales, Jungermanniales, Sphagnales, and Polytrichales.
- Evolution of gametophytes and sporophytes in Bryophytes Phylogenetic relationships among Bryophytes, ecological and environmental significance.

UNIT-II

(20)

- Pteridophyta: Theories of origin (algal and bryophytean), evolution and classification, Structure and reproduction of Psilophyta, Lycophyta, Sphenophyta and Pterophyta.
- Structural diversity of sori, Soral evolution in ferns, Structure, morphology, evolution and significance of sporocarp, stellar evolution; Origin of heterospory, Heterospory and seed habit.

UNIT-III

(20)

- Gymnosperm: origin, evolution and classification, Structure and reproduction of Cycadales, Ginkgoales, Coniferales, Ephedrales, Welwitschiales, and Gnetales.
- Phylogenetic importance Range of reproductive structures of Cycadales, Ginkgoales, Coniferales, and Gnetales, Structural diversity of pollens in Gymnosperms, Evolution of male and female gametophytes in Gymnosperms.

UNIT-IV

(20)

- Paleobotany, General account of Pteridospermales, Cycadeoidales, Pentoxyllales, fossil Ginkgoales, Cordaitales and fossil Coniferales.
- Geological time scale, Basic concepts of continental drift, Fossilization process, Types of fossil, Dating of fossil, Fundamentals and applications of paleobotany, Palynology: Spore and pollen morphology, polarity, symmetry, ornamentation

(20)

Course Outcome: Upon completion, students will be able to know the general characteristics, classification, reproduction and economic importance of bryophytes, Pteridophytes & Gymnosperms. Student will gather information about fossil and palynology.

SEMESTER-II

BOT-202 Genetics & Plant Breeding

Full Mark: 100

Course objective: To discern about fundamental concept of Genetics, sex chromosomes, sex determination, linkage, chromosomal aberrations and Plant breeding.

Content:

UNIT-I

(20)

- Mendel's experiments and laws of inheritance, Interactions of genes, Multiple allele in human (ABO blood group); eye colour in Drosophila, Polygenic inheritance, pleiotrophy, Maternal effects and cytoplasmic inheritance, mitochondrial & chloroplast genome
- Sex chromosomes, Chromosomal sex determination: XX-XY, XX-XO and ZZ-ZW systems, Genic balance theory of sex determination, Sex determination in humans and Drosophila with special reference to SRY and sex lethal genes. Sex linkage: Sex linked genes in man, sex chromosome disorders in man, Sex influenced dominance by sex-linked gene expression. Sex determination in plants with special reference to Melandrium

UNIT-II

(20)

- Linkage groups: Complete and incomplete linkage, Crossing over: Relationship between genetic and cytological crossing over, Relationship between crossing over and chiasma formation, molecular mechanism of crossing over
- Detection of linkage & Linkage maps: Test cross, test for linkage on the basis of F₂ generation, LOD score, gene mapping, three point test cross in Drosophila, construction of linkage maps, identification of particular linkage groups with specific chromosome, physical distance and map distance, Interference and coincidence

UNIT-III

(20)

- Chromosomal aberrations: Structural and numerical alterations/ variation in chromosomes, Mutation: Spontaneous and induced mutations, physical and chemical mutagens, Meiotic behavior of deletion, duplication, inversion and translocation. Euploids and aneuploids: classification, origin, induction,
- Population genetics: Hardy-Weinberg's Law, genetics of quantitative traits in population.

UNIT-IV

(20)

- Plant breeding: Introduction and objective. Centre's of origin and domestication of crop plants, Selection and Hybridization, methods for self and cross pollinated plants: procedure, advantages and limitations. Role of mutations and polyploidy, Role of polyploidy in crop improvement
- Quantitative inheritance: Concept and mechanism with examples. Monogenic vs. polygenic inheritance. Inbreeding depression and heterosis.

Course Outcome: Upon completion, students will able to know the concept of Genetics, sex chromosomes, sex determination, linkage, chromosomal aberrations, Quantitative inheritance and Plant breeding.

SEMESTER-II

BOT-203 Plant Anatomy & Embryology

Full Mark: 100

Course objective: Aim of the course is to educate students regarding differentiation of meristematic tissues, developmental biology and reproductive biology of the flowering plants.

Content:

UNIT-I

(20)

- Introduction and scope of Plant Anatomy, Classification of tissues; Simple and complex tissues (with phylogeny); cyto- differentiation of tracheary elements and sieve elements; Organization of shoot apex and root apex. Secondary growth in stem, Anomalous secondary growth

UNIT-II

(20)

- Mechanical tissue system: Principles governing the construction of mechanical system, arrangement or distribution of mechanical tissues in different plant organ. Wood and their elements, Wood anatomy in relation to phylogeny. Root Stem transition. Periderm: Development and composition of periderm, rhytidome and lenticels, Dendrochronology

UNIT-III

(20)

- Male gametophyte: Structure of anthers, microsporogenesis, pollen development, male sterility, pollen germination, pollen tube growth and guidance, pollen storage, pollen allergy
- Female gametophyte: Ovule development, megasporogenesis, structure and organization of the embryo sac, pollination mechanisms and vectors, pollen embryos. Palynology in taxonomy.

UNIT-IV

(20)

- Structure of pistil, pollen-pistil interactions, Self incompatibility in plants: cytological, biochemical and molecular aspects, Double fertilization and endosperm development & types.
- Development and maturation Embryogenesis: structure and development of monocot and dicot embryo, polyembony and apomixes.

Course Outcome: Students will learn about plant cell development, differentiation of apical meristems & vascular tissues, flower development and its genetic regulation. Students will gain knowledge on development of fruit, senescence and its regulation, development of male and female gametophyte, pollen-stigma interactions and double fertilization.

SEMESTER-II

BOT-204 Plant Systematic & economic botany

Full Mark: 100

Course objective: The course aims to add to understanding of the students about the nomenclature, classification and diversity and economic botany of flowering plants.

Content:

UNIT-I (20)

- Nomenclature: The species concept, delimitation of taxa and attribution of ranks, salient features of ICBN, herbarium methodology, important herbaria of the world. Phenetic and phylogenetic systems of classification, relative merits and demerits of major system of classification (Bentham & Hooker, Engler-Prantl, Hutchinson, APG system),

UNIT-II (20)

- Taxonomic evidence: Morphology, palynology, anatomy, embryology, cytology and Phytochemistry, Cladistics in taxonomy, Molecular taxonomy.
- Range of floral structures in major dicot groups: Ranales, Asterales, Lamiales, and Leguminales.
- Range of floral structures in monocot groups: Poales, Scitaminae and Orchidales

UNIT-III (20)

- Economic Botany: Origin and domestication of cultivated plants, world centres of diversity of domesticated plants, plant introduction and secondary centre of origin, Evolution of new crops/varieties, Importance of germ plasma diversity, Morphology, cultivation and processing of millets and sugarcane

UNIT-IV (20)

- Morphology, processing of spices and beverages, Extraction and uses of oils, Evolution and uses of food, forage, fodder, fibre and oil-yielding crops., Uses of medicinal and aromatic plants, Important firewood and timber yielding plants and non-wood forest products, plants used as avenue trees for shade, pollution control and aesthetics

Course Outcome: Students will learn about ICBN and rules for plant nomenclature, merits and demerits of major system of classification, Taxonomic evidence and range of floral structures of different orders. Students will learn about centre of origin of plants and various economic uses of domesticated and wild plants.

SEMESTER-II

[Practical pertaining to papers 201, 202, 203 & 204]

BOT-205

PRACTICAL

Full Mark: 100

1. Local field trip to acquaint the students with occurrence of Bryophyta, Pteridophytes and Gymnosperms at different habitats in nature and collection of specimens, and submission of report.
2. Study of morphological and anatomical features (vegetative and reproductive) of different classes of Bryophytes, Pteridophytes and Gymnosperms.
3. Preparation of permanent slides and study of vegetative and reproductive structures of members of Bryophytes, Pteridophytes and Gymnosperms. The students have to submit permanent slides.
4. Mendel's laws through seed ratios. Laboratory exercises in probability and chi-square analysis.
5. Pedigree analysis for dominant and recessive autosomal and sex linked traits.
6. Incomplete dominance and gene interaction through seed ratios (9:7, 9:6:1, 13:3, 15:1, 12:3:1, 9:3:4).
7. Blood Typing: ABO groups & Rh factor.
8. Preparation of permanent slides and study of anatomical features of stem and root of selected angiospermic plants.
9. Preparation of micro slides and study of anomalous secondary growth in selected angiospermic plants.
10. Study of anatomical and physiological adaptations in hydrophytes, xerophytes and epiphytes.
11. Microscopic preparation and study of embryological slides.
12. Determination of distribution and population status of taxa occurring in local flora.
13. Identification of species and assignment of correct names of selected taxa. Herbarium methodology: collection, preservation, mounting and submission of herbarium.
14. Study of vegetative and floral characters of materials of the families included in the theory syllabus.
15. Study of T.S. of Anther, Morphology of spores, Types of ovules (permanent slide & photograph), Development of dicot embryo through permanent slide/photographs.

SEMESTER-II

Recommended Books:

1. **Bryophytes:** Prem Puri: Atma Ram & Sons
2. **Bryophyta:** NS Parihar: Central Book Depot, Allahabad
3. **Biology & Morphology of Pteridophytes:** Central Book Depot, Allahabad
4. **The Morphology of Pteridophytes:** KK Sporne, BI Publishing Pvt. Ltd. Mumbai
5. **Gymnosperms:** SP Bhatnagar & A. Moitra: New Age International
6. **Gymnosperm: Structure & Evolution:** CJ Chamberlain: CBS Publication, New Delhi
7. **The Gymnosperms:** C. Biswas & BM Johri: Narosa Publishing House
8. **The Science of Genetics:** Atherly, Girton, Mc Donald: Saunders College Publication
9. **Genetics:** PJ Russel: The Benjamin/ Cummings Publisher
10. **Principles of Genetics:** DP Snustad & MJ Simmers: John Willey
11. **Genetics:** MW Strickberger: McMillan
12. **Genetics:** PK Gupta: Rastogi Publication
13. **Cytogenetics:** PK Gupta: Rastogi Publication
14. **Principles & Practice of Plant Breeding:** JR Sharma: Tata McGraw Hill
15. **Principles of Crop Improvement:** NW Simmonds: Longman, London
16. **Cytology & Genetics:** S Sen & DK Kar: Narosa Publishing House
17. **Hybrid Cultivar Development:** SS Banga & SK Banga: Narosa Publishing House
18. **Breeding Field Crops:** JM Poehlman & DR Sleeper: Panima Publishing
19. **Microbial Genetics:** D. Freifelder: Narosa Publishing House
20. **Principles & Procedures of Plant Breeding:** GS Chahal & SS Ghosal: Narosa Publishing House
21. **The Embryology of Angiosperms:** SS Bhojwani, SP Bhatnagar: Vikash Publishing
22. **An Introduction to Plant Cell Development:** J Burgess: Cambridge Univ. Press
23. **Plant Science: Growth, Development, and Utilization of Cultivated Plants,** Margaret E. McMahon, Anton M. Kofranek, Vincent E. Rubatzky - Prentice Hall
24. **Mechanisms in Plant Development:** Ottoline Leyser, Stephen Day (Author) - Blackwell Science Ltd.;
25. **Taxonomy of Angiosperms:** VN Naik, Tata McGraw Hill
26. **Flora of Orissa :** Saxena & Brahmam, OFDC, Bhubaneswar
27. **The Botany of Bihar & Orissa:** HH Haines, Bishen Singh & Mahinder Palsing
28. **Handbook of Palynology:** G Erdtman, Hafner, New York
29. **An Aid to ICBN:** Henry & Chandra Bose, Today & Tomorrow Publication
30. **A Textbook of Economic Botany:** A Sambamurthy and Subramaniam, Willey Eastern
31. **Economic Botany in the Tropics:** SL Kochar, Mac Millan
32. **Taxonomy:** O P Sharma, McGraw Hill Book Company, NY
33. **Current Concepts in Plant Taxonomy:** PH Davis & VH Heywood, VH Heywood & DM Moore, Robert E Kreiger Publishing Co Academic Press, London
34. **Plant Systematics:** SB Jones & AE Luchsing, McGraw Hill Book Company, NY

SEMESTER-III

BOT-301 Plant Physiology & Metabolism

Full Mark: 100

Course objective: To acquaint with various physiological & metabolic pathways, nature and mode of action of enzymes and nitrogen fixation of plant.

Content:

UNIT-I

(20)

- Water balance in plants, water absorption and transport through xylem, Mechanisms of transpiration and stomatal movement, Transport of ions across membrane, water channels, H^+ - ATPase and H^+ - pyrophosphatase, solute accumulation in vacuoles through ABC transporters, Translocation in phloem with special reference to pressure flow model, Phloem loading & unloading

UNIT-II

(20)

- Photosynthesis: Photosynthetic pigments and light harvesting complexes, mechanism of electron transport, photo protective mechanisms; CO₂ fixation: C₃, C₄ and CAM pathways, Photorespiration and its significance.
- Respiration: Glycolysis, TCA cycle, pentose-phosphate pathway, Oxidative phosphorylation, Electron transport and ATP synthesis, alternate oxidase system.

UNIT-III

(20)

- Plant Growth regulators: Biosynthesis, storage, breakdown and transport of plant hormones, Mechanism of action, physiological effects and applications of plant growth regulators auxins, gibberellins, cytokinins, ethylene and abscisic acid;
- Flowering and Senescence: Mechanism of flowering and photoperiodism and vernalization, biological clocks. Molecular mechanism of senescence and aging in plants

UNIT-IV

(20)

- Nitrogen metabolism: Biological nitrogen fixation, mechanism of nitrate uptake and reduction, nitrate and ammonium assimilation,
- Sensory Photobiology: Pigments as photoreceptors, structure, function and mechanisms of action of phytochromes, cryptochromes and phototropins,
- Stress Physiology: Responses of plants to biotic (pathogen and insects) and abiotic (water temperature and salt) stresses. Metal toxicity, oxidative stress.

Course Outcome: Student will be able to understand the mechanism of plant metabolism, enzyme kinetics and nitrogen fixation.

SEMESTER-III

BOT-302 Plant Biotechnology & Genetic Engineering

Full Mark: 100

Course objective: The paper will deal plant cell, tissue & organ culture, somatic hybridization and cybridization, recombinant DNA technology and genetic engineering of plants. Students will be taught about various instruments and techniques used in biological experiments.

Content:

UNIT-I

- Plant cell, tissue & organ culture: History, scope and concept of cellular differentiations, totipotency, Fundamental aspects of morphogenesis: organogenesis and somatic embryogenesis, Clonal propagation, Artificial seeds. Androgenesis and production of haploids, Callus and cell suspension culture, Production of somaclonal variants, production of secondary metabolites in cultures, Cryopreservation. **(20)**

UNIT-II

- Somatic hybridization and cybridization: Factors affecting protoplast isolation, culture and plant regeneration, Protoplast fusion-chemical fusion & electrofusion mechanism & techniques, Selection of heterokaryotic fusion products, biochemical selection and physical selection (micromanipulation, flow cytometric characterization and cell sorting), Analysis of hybrids, Somatic hybrids and cybrids for crop improvement. **(20)**

UNIT-III

- Recombinant DNA technology: Gene cloning-principles, Cloning vectors-plasmids, phages, cosmids & phagemids; Artificial chromosomes, Polymerase Chain Reaction-principles, types and applications, RT-PCR; Genomic and c-DNA libraries; Construction of recombinant DNA molecules and their mobilization into bacteria; Analysis of recombinant clones, DNA sequencing. **(20)**

UNIT-IV

- Genetic Engineering of plants: Methods for gene transfer to plants, Agrobacterium mediated and direct gene delivery, Gene tagging, detection of foreign gene and gene products; Southern blotting, Northern blotting and Western blotting; Chloroplast transformation, Gene targeting, Transgenic plants for crop improvement, possible ecological risks and ethical concerns. **(20)**

Course Outcome: Students will learn about clonal propagation, production of haploids, somaclonal variants, development of somatic hybrids and cybrids for crop improvement. Students will gain knowledge on recombinant DNA technology and agrobacterium mediated gene transfer for development of transgenic plants.

SEMESTER-III

BOT-303 Research Methodology

Full Mark: 100

Course objective: To acquaint the knowledge on research methodology basically on microscopy, computer and information methods. The students will be able to learn, how to study scientific literature, research ethics, writing research proposal & dissertation Content

UNIT-I (20)

- Biometry: Graphical Representation of Statistical Data, Measures of Central Tendency, Variance and Standard Deviation, Correlation and Regression Analysis, Test of Significance based on small samples, X^2 (Chi-Square), t-test, Analysis of Variance (ANOVA).
- Computer and Information Methods: MS Word, MS Excel, MS Power Point, Internet Latex, Bibliography tools, checking similarity using Plagiarism Detection Software

UNIT-II (20)

- Basic Methods in Biology: Microscopy-Principles and Working of light and Compound Microscopes, Phase Contrast, Fluorescent microscope
- Electron Microscopes (SEM & TEM), Fixation and Staining Techniques. Cryofixation, negative staining, shadow casting, freeze fracture, freeze etching.

UNIT-III (20)

- Analytical Techniques: Principles and Application of Spectrophotometer and Centrifugation
- Principles and Application of Chromatography, Electrophoresis and Tracer Techniques in biological research

UNIT-IV (20)

- Research Theory: Meaning and Objective of Research, Types of Research, Significance of Research, Research Methods, Research Process, Criteria of Good Research.
- Basics of Research Practice: Writing of Research Papers, Abstracts and Review Papers, Dissertations and Thesis Writing, Preparation and Presentation of Posters. Research Ethics: Introduction and Objective of Research Ethics,

Course Outcome: Upon successful completion of the course, students will be able to acquire knowledge on research methodology basically on microscopy, computer and information methods. The students will be able to learn, how to study scientific literature, research ethics, writing research proposal & dissertation. They can also know the better way of scientific communication

SEMESTER-III

[Practical pertaining to papers 301, 302 & 303]

BOT-304

PRACTICAL

Full Mark: 100

1. To study the induction of amylase activity in germinating barley grains.
2. Measurement of relation between transpiration and transpiring surface.
3. To measure size of stomata using ocular and stage micrometer.
4. To determine the total chlorophyll pigment content of supplied leaf samples by spectrophotometer.
5. To compare the chlorophyll-a & chlorophyll-b ratio in C3 and C4 plants.
6. Preparation of plant tissue culture medium, sterilization and disinfection, Callus proliferation, shoot and root regeneration and transfer of axenically grown plants to soil,
7. Preparation of artificial seeds.
8. Study of Bt cotton, golden rice, flavr-savr tomato..
9. Isolation of plasmid DNA.
10. Demonstration of Gel electrophoresis.
11. Determine the effect of different wavelength of light on photosynthesis.
12. Determine the rate of photosynthesis under different CO₂ concentration.
13. Determine the effect of light intensity on photosynthesis.
14. Determination of the osmotic potential of plant cell-sap by plasmolytic method.
15. Study of the effect of wind velocity, light on the rate of transpiration in the exised twig.

SEMESTER-III

OEC-BOT-305 Open Elective Course (OEC)

Full Mark: 100

Course objective: The course aims to educate students on types, risks of Disaster & it's management with special reference to various recent case studies of disaster management.

Content: Disaster Management

UNIT-I (20)

- Disaster Management: Types of Disasters (Natural and Man-made and their cause and effect)
- Vulnerability Assessment and Risk Analysis: Vulnerability to various disasters (Flood, Cyclone, Earthquake, Heat waves and Lightning)

UNIT-II (20)

- Institutional Framework: Institutional arrangements for disaster management (National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA),
- District Disaster Management Authority (DDMA), National Disaster Response Force (NDRF) and Odisha Disaster Rapid Action Force (ODRAF)

UNIT-III (20)

- Preparedness Measure: Disaster Management Cycle, Early Warning System, Pre-Disaster and Post Disaster Preparedness,
- Strengthening of SDMA and DDMA, Community Preparedness, Stakeholder Participation, Corporate Social Responsibility (CSR)

UNIT-IV (20)

- Case Studies in Disaster Management in Odisha:
 1. 1999 Odisha super cyclone
 2. Cyclone Phailin
 3. Cyclone Hudhud
- Survival Skills: Survival skills adopted during and after disaster Flood, Cyclone, Earthquake, Heat waves and Lightning.

(20)

Course Outcome: Students will learn about types and risks of disasters and how to manage with various management authorities.

SEMESTER-III

Recommended Books:

1. **Introduction to Plant Physiology.** Hopkins, W.G. and Huner, A. (2008). John Wiley and Sons. U.S.A. 4th edition.
2. **Plant Physiology and Development** Taiz, L., Zeiger, E., Møller, I.M. and Murphy, A (2015). Sinauer Associates Inc. USA. 6th edition.
3. **Experiments in Plant Physiology-A Laboratory Manual** Bajracharya D. (1999). Narosa Publishing House, New Delhi.
4. **Plant Physiology** : Salisbury, F. B. and Ross, C. W. Wadsworth Publishing Company, California
5. **Outlines of Plant Physiology** Sahoo, A. C. (2018). Kalynai Publishers, New Delhi.
6. **Plant Physiology**: Srivastava, N. K.. (2017), Rastogi Publications, Meerut.
7. **Plant Physiology**: Pandey and Sinha (2011), Vikash Publishing House, New Delhi.
8. **Phytochemical Methods**: Harborne, J.B. (1973). John Wiley & Sons. New York.
9. **Advanced Plant Physiology**, Wilkins M.B., ELBS
10. **Biochemistry and Molecular Biology of Plant Hormones**: HooyKaas P.J.J., Hall M.A and Libbenga KR (EDS), Elsevier, Amsterdam, The Netherlands.
11. **Biochemistry and Plant Physiology of Plant Hormones**: Moore T.C., Springer-Verlag New York, USA
12. **Photoperiodism in Plant**: Thomas B. and Vince-Prune, D., Academic Press, San Diego, USA
13. **Plant Biotechnology, the genetic manipulation of plants**. Adrian Slater, Nigel Scott and Mark Fowler. Oxford University Press.
14. **Plant Cell, Tissue and Organ Culture, Fundamental Methods**. Gamborg O.L. and Phillips G.e. (Editors). Narosa Publishing House.
15. **Introduction to Plant Biotechnology**. Chawla H.S. Oxford & mH Publishing Co. Pvt.Ltd.
16. **From Genes to Genomes, Concepts and Applications of DNA technology**. Dale IW. And Von Schantz M. John Wiley and Sons Ltd.
17. **Plant Tissue Culture: Theory and Practice**.. Bhojwani S.S and Razdan M.K., Elsevier.
18. **Introduction to Bioinformatics**. Lesk M., Oxford University Press.
19. **Biochemistry and Molecular Biology of Plants**, Buchanan. B.B., Guissem, W. and Jones RL., American Society of Plant Physiologist, Maryland, USA
20. **Molecular Cell Biology**, Lodish, H., Berk, A., Zipurskt S.L. Matsudaire, P. Baltimore, D and Darnell J., W.H. Freeman and Co. New York, USA
21. **Practical Application of Plant Molecular Biology**, Henry R J., Cuapmman and Hall
22. **Annual Review of Plant Physiology and Molecular Biology**, annual review of Biochemistry, Academic Press

SEMESTER-IV

BOT-401 Ethnobotany

Full Mark: 100

Course objective: To acquaint the knowledge on Ethnobotany & its role in modern science, conservation of plant genetic resources.

Content:

UNIT-I

(20)

- Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. The relevance of ethnobotany in the present context; Major and minor ethnic groups or Tribals of India, Odisha and their life styles. Plants used by the tribals: a) Food plants b) intoxicants and beverages c) Resins and oils and miscellaneous uses

UNIT-II

(20)

- Role of ethnobotany in modern Medicine, Medico-ethnobotanical sources in India and Odisha; Significance of the following plants in ethno botanical practices (along with their habitat and morphology) a) *Azadiractha indica* b) *Ocimum sanctum* (c) *Vitex negundo*. d) *Glorios asuperba* e) *Tribulus terrestris* f) *Pongamia pinnata* g) *Cassia auriculata* h) *Indigofera tinctoria*.

UNIT-III

(20)

- Role of ethnic groups in conservation of plant genetic resources. Endangered taxa and forest management (participatory forest management). Role of ethnobotany in modern medicine with special example *Rauwolfia serpentina*, *Trichopus zeylanicus*, *Artemisia*, *Withania*.

UNIT-IV

(20)

- Ethnobotany and legal aspects .Ethnobotany as a tool to protect interests of ethnic groups. Sharing of wealth concept with few examples from India and Odisha. Biopiracy, Intellectual Property Rights and Traditional Knowledge.

Course Outcome: Upon successful completion of this course student will be able to acquire basic knowledge on Ethnobotany & its role in modern science, conservation of plant genetic resources.

SEMESTER-IV

BOT-402-A Microbes & Microbial techniques-I

Full Mark: 100

Course objective: To acquaint the knowledge on microbes, their physiology, concept and scope of industrial microbiology & microbial taxonomy.

Content:

UNIT-I

(20)

- History and milestones in the development of microbiology, classification of microorganisms, Microbial culture methods: isolation, purification, growth, maintenance and preservation of microbes, axenic and synchronous culture, batch and continuous culture. Metabolic groups of bacteria, ultra-structure and composition of bacterial cell wall, cell inclusions and nucleic acids, reproduction, bacterial metabolism.

UNIT-II

(20)

- Microbial Physiology: Bacterial photosynthesis (photosynthetic pigments and their location in the cell, anoxygenic photosynthesis, oxygenic photosynthesis, CO₂ fixation), microbial nutrition (photoautotrophs, photoorganotrophs, chemolithotrophs and chemoorganotrophs), nitrate reduction and denitrification process, sulphate reduction.

UNIT-III

(20)

- Microbial techniques: Different types of culture media, pure culture methods (isolation and maintenance), enrichment culture, and isolation of DNA.
- Microbial enzymes: Sources of enzymes, selection of microorganisms, mechanism of enzyme biosynthesis, large scale production and enzyme recovery, enzyme assay, enzyme production by microbes (α -amylase, Cellulases, Proteases and Lipases), enzyme immobilization.

UNIT-IV

(20)

- General concept and scope of industrial microbiology; Isolation, preservation and maintenance of important industrial microorganisms. Strain improvement: Strain improvement strategies, strain selection and strain stability; Microbial taxonomy: microbial phylogeny derived from ribosomal RNA sequences, classical taxonomy, chemotaxonomy (DNA -DNA hybridization, ribotyping, and lipid profiling).

Course Outcome: Upon successful completion of this course student will be able to acquire basic knowledge on microbial diversity, various techniques of microbial culture, control and measurement of microbial growth, Microbial physiology, concept and scope of industrial microbiology & microbial taxonomy.

SEMESTER-IV

BOT-402-B Microbes & Microbial techniques-II

Full Mark: 80

Course objective: To acquaint the knowledge on microbes fermentation techniques, soil microbiology, immunology & Microbes in soil fertility.

Content:

UNIT-I

(20)

- Fermentor, design of bio-reactor, batch and continuous fermentation, downstream processing, industrial production of organic acids, alcohol, enzymes and antibiotics. Microbes in food: Principles of food preservation, contamination and food spoilage, microbiology of milk, processing and milk products, single cell protein-yeast, *Chlorella*, *Spirulina*, mushroom cultivation, microbial technology for pigments; bio hydrogen and biodiesel.

UNIT-II

(20)

- Soil microbiology: surface and deep surface microbes, water microbiology: microbes of freshwater and marine habitats; aero microbiology: microbes in atmosphere, microbial activity and biogeochemical cycle. Wastewater microbes, microbial aspects of waste water treatment, biofilm structure and development, microbial interaction in biofilm, degradation of industrial pollutants and organic carbon, pesticide, hydrocarbon removal by microbes.

UNIT-III

(20)

- Immune system, Lymphocytes and accessory cells, Immunoglobulins, mechanism of immune response and generation of antibody diversity, Effectors, complements, auto-immunity, AIDS and other immunodeficiency, Hybridoma and Mabs, Immunological techniques: detection of molecules using ELISA, RIA, western blot, flow-cytometry

UNIT-IV

(20)

- Microbes in soil fertility: Nutrient metabolism, organic nitrogen transformation, phosphate solubilization, microbial association in soil. Lignocellulolytic and cellulolytic microbes, catabolic degradation. Biofertilisers: Types, methods of production, stain improvement, application and economics of *Rhizobium*, *Azotobactor*, *Azospirillum*, Mycorrhiza, Cyanobacteria.

Course Outcome: Upon successful completion of this course student will be able to acquire basic knowledge on microbial diversity, various techniques of microbes fermentation techniques, soil microbiology, immunology & Microbes in soil fertility.

SEMESTER-IV

BOT-403-A Environmental Science-I

Full Mark: 100

Course objective: Aim of the course is to educate students regarding fundamentals of environmental studies and ecology, natural resources and management, environmental hazards, risk and disaster management, environmental laws and awareness

Content:

UNIT-I

(20)

- Foundation courses of environmental studies and fundamentals of ecology: Definition, concept and scope of Environmental studies. Different components of the environment: Atmosphere, Hydrosphere, Lithosphere and Biosphere. Concept of ecosystem, its biotic and abiotic components, anthropogenic activities and ecosystem degradation. Environmental protection and sustainable development.

UNIT-II

(20)

- Natural resources and management: concept of natural resources, renewable and nonrenewable resources, mineral and water resources in India with special reference to Odisha and their exploitation, bioenergy resources, energy from biomass and biogas, energy plantation, petro plants, bioethanol and methane production, energy from solar and wind sources, rain water harvesting technology

UNIT-III

(20)

- Environmental hazards, risk and disaster management: Environmental hazards: definition of hazard and disaster, environmental hazards: natural and technological hazards. Management of hazardous wastes, Risk analysis: concept of risk analysis types of models for risk analysis, their characteristics and salient features, guidelines for conducting risk analysis, Disaster management: concept of disaster management plan and the guidelines, disaster assistance.

UNIT-IV

(20)

- Environmental laws and awareness: Environmental laws: Environmental protection act, water act., air act., land requisition policies and acts, forest laws and wild life protection act, rehabilitation and resettlement policies, biomedical waste disposal act and municipality solid waste disposal act, Environmental education and awareness: environmental ethics and global imperatives

Course Outcomes: Students will learn about components of the environment, Concept of ecosystem, Environmental protection and sustainable development, renewable and nonrenewable resources, environmental hazards and disaster management, environmental laws, environmental education and awareness.

SEMESTER-IV

BOT-403-B Environmental Science-II

Full Mark: 80

Course objectives: To acquire knowledge on different environmental pollution and their management strategies

Content:

UNIT-I

(20)

- Environment & Pollution: Definition of environmental pollution and pollutant, classification of pollution and pollutant, pollution and its effects on plants, animals, human beings and on materials, synergism and antagonism, Entry of pollutant into the environment, transfer of pollutant, abiotic transformation of pollutant, entry of pollutant into biosphere, bio-accumulation and bio-magnification, biodegradation of pollutants

UNIT-II

(20)

- Air Pollution & Management: Normal composition of clean air, air pollution sources, deforestation, burning of fossil fuels, vehicular emission, rapid industrialization, agricultural activities and wars, effects of air pollution on biota, manufactured goods, aesthetic loss, global warming or green house effect, acid rain, ozone layer depletion, control of air pollution

UNIT-III

(20)

- Water pollution & Management: Major water pollutant, sources of water pollution, point sources, non-point sources, industrial discharge, domestic sewage, agricultural waste, surface runoff, oil discharge, hot water discharge, radio-active wastes. Effects of water pollution on biota, Eutrophication, marine pollution, preservation and control of water pollution

UNIT-IV

(20)

- Sources, effects and control of Soil pollution, Noise pollution, Radiation/Radio-active pollution, Importance of Environmental Impact Assessment; Role of Pollution Control Board to control environmental pollution
- Climate change: Evidences, impacts, Earth summit. UNFCCC, Kyoto protocol, Doha Amendment, Paris agreement.

Course Outcome: Students will understand and acquire knowledge on environmental pollution and their management strategies.

SEMESTER-IV

[Practical pertaining to papers 402]

BOT-404

PRACTICAL

Full Mark: 100

1. Local field trip to nearby industries to acquaint the students with fermentation, food processing industries/environmental institute/research institute/various ecosystem & submission of the report.
2. Learning about safety rules, basic requirements, methods of sterilization preparation of culture media; Study of microscope and micrometry.
3. Demonstration and study of techniques for pure culture of microorganisms.
4. Techniques for isolation and enumeration of microorganisms from different habitats.
5. Study of maintenance and preservation of microorganisms.
6. Staining techniques (simple and differential) for identification of microorganisms.
7. Bacterial growth curve studies by turbidometric and cell count method.
8. Study of effect of environmental factors on bacterial growth.
9. Biochemical techniques for identification of selected bacteria.
10. Microbial examination of water for potability.
11. Isolation, cultivation and identification of Rhizobium, Azotobacter, and Azospirillum from soil and associated host.
12. Antibiotic sensitivity test for bacteria and fungi on agar plate by disc diffusion method.
13. Study of antibiotic assay techniques.
14. Determination of Minimum Inhibitory Concentration (MIC) of antimicrobial compounds.
15. Microbiological examination of milk and milk products.
16. Isolation, culture and identification of microbes from contaminated food sample.
17. Screening of microbes (Bacteria and Fungi) for different industrial enzymes.
18. Study of production of alcohol and organic acids by microorganisms.

SEMESTER-IV

[Practical pertaining to papers 403]

BOT-404

PRACTICAL

Full Mark: 100

1. Local field trip to nearby sewage treatment site, pollution management centres/environmental institute/research institute/various ecosystem & submission of the report.
2. Determination of total dissolved solids of water
3. Determination of dissolved oxygen concentration of water sample.
4. Determination of free carbon dioxide content of water of different water bodies.
5. Determination of Biological Oxygen Demand (BOD) of sewage sample.
6. Determination of Chemical Oxygen Demand (COD) of sewage sample.
7. Determine the efficiency of removal of air pollutant using fibrous air filter.
8. Effect of Sulphur dioxide on crop plants
9. Estimation of heavy metals in water/soil by Atomic Absorption Spectrophotometry.
10. Estimation of nitrate in drinking water.
11. Study of soil profile with respect to pH, moisture content, porosity and organic carbon content.
12. Study of water bodies and its pollution loads taking parameters like pH, DO content, free CO₂, BOD, COD, Acidity, Alkalinity and phosphate and nitrate content.

SEMESTER-IV

BOT-405 DISSERTATION

Full Mark: 100

Course Objectives: The course aims to develop the skill of experimental design, critical thinking and scientific writing.

Content:

Each student is required to carry out a dissertation work involving either experimental research work or a review work under the supervision of a faculty member and submit a dissertation. The student has to start the project work from beginning of Semester- IV and submit the dissertation before the commencement of Semester IV theory examination. The project will be evaluated in Semester IV .The student has to give a Power Point Presentation in the presence of an external examiner and an internal examiner (the Supervisor). The project will be evaluated by the examiners based on the dissertation (50 marks), Power Point Presentation (25 marks) and viva-voce (25 marks).

Skill development with long term hands - on -training on various bio-techniques i.e. Microbes & Microbial techniques, Environmental Science along with data analysis software training for further research and development in Industries, Institutes and Academics

Course Learning Outcomes: Students will learn how to design experiments, think critically and write dissertation. The course will be a preliminary training to do research.

SEMESTER-IV

Recommended Books:

1. **Understanding Environmental Pollution:** Hill, M. K. (1997).. Cambridge University Press,
2. **Biology of Freshwater Pollution.** Mason, C. F. (1991).. Longman, New York.
3. **Fundamentals of Ecology:** EP Odum: Saunders
4. **Basic Ecology:** EP Odum: Saunders
5. **Ecology and Field Biology:** RL Smith: Harper Collins, New York
6. **Ecology:** M. Begon, J Harper & Townsend: Blackwell Scientific
7. **Fundamentals of Ecology:** EP Odum: Saunders
8. **Basic Ecology:** EP Odum: Saunders
9. **Terrestrial Plant Ecology:** MG Barnbaur, Bark, Bills: Benjamin/Cummings
10. **Concepts of Ecology:** EJ Kormondy: Prentice Hall
11. **Ecology: Principles & Application:** JL Chapman, MJ Reiss: Cambridge Univ.
12. **Sustainability Indicators:** B Moldan et al. John Willey
13. **Understanding Environmental Pollution-** MK Hill: Cambridge Univ. Press
14. **Microbiology-An Introduction:** GJ Tortora, BR Funcl& CL Case: The Benjamin/Cummings Publishing Company, Inc.
15. **Microbiology:** Klein, Harley & Prescott: John Willey
16. **Microbiology: Principles & Experiments:** JG Black: Benjamin/Cummings Publishing Company, Inc.
17. **General Microbiology:** Stanier: Blackwell Scientific Publication
18. **Kuby Immunology:** RA Goldsby, J Thomas: Freeman
19. **Immunology:** Roitt: John Willey

RK Naem
6.10.23

S. S. S. S.
06-10-23

Archi
06/10/23

6/10/23

6.10.23
06/10/23
Rajan
6.10.23

MASTER OF SCIENCE IN CHEMISTRY

(SEMESTER PATTERN)

**CHOICE BASED CREDIT SYSTEM SYLLABUS TWO YEAR FULL TIME
PROGRAMME**

COURSE OF STUDIES

(AS PER U.G.C. MODEL SYLLABUS)

(2023 -2024)



**P. G. DEPARTMENT OF CHEMISTRY
M.P.C. AUTONOMOUS COLLEGE, TAKHATPUR, BARIPADA,
MAYURBHANJ, ODISHA, PIN-757003**



M.P.C. AUTONOMOUS COLLEGE
COURSE OF STUDIES
FOR THE
M. Sc. EXAMINATION IN CHEMISTRY
(2023-2024)

PREFACE

Master of Science (M.Sc.) in Chemistry is a full time two years post-graduation programme of M.P.C. Autonomous College. The choice based credit system (CBCS) syllabus in M. Sc. Chemistry is comprised of four semesters, having total of 100 credits (2000 marks). There are 16 theory papers carrying four credits each with 100 full marks. Out of which mid and end semester examinations carry 20 marks and 80 marks, respectively. The duration of end semester examination is three hours. Besides there are 4 practical papers (5 credit each and full mark 100) with end semester examination of six hours duration. The fourth semester has a compulsory project work of 5 credits (100 marks). Students are required to undertake a project work after completion of 2nd semester and submit project report in the 4th semester for evaluation. Questions will be set unit wise with long and short answer type questions.

PROGRAM OBJECTIVES:

- To impart knowledge in fundamental aspects of all branches of chemistry (Organic, Inorganic, Physical, Polymer and Analytical Chemistry) along with the current scientific status and new developments in Chemistry.
- To acquire deep knowledge in the specific areas like spectroscopy, materials chemistry, research methodology etc.
- To teach the students about good laboratory practices, safety of oneself and others in the laboratory.
- To acquire the different practical skills, hand on training on basic equipment, and data analysis for research and better job prospective.
- To train the students in accepting the challenges in Chemistry and to become a responsible citizen in the society.

PROGRAM OUTCOMES:

On completion of the M.Sc. Chemistry programme, the students will:

- Acquire the in-depth functional knowledge of the fundamental principles and contemporary practices of chemistry and ability to use them to investigate, explain and predict the new phenomena.
- Acquire skills to design, execute and document of laboratory experiments at a level suitable to succeed at an entry level position in research, academia, or chemical industry.
- Develop an awareness of social, economic, environmental and technological implication of chemistry.
- Find job opportunities in Chemical, pharmaceutical, and other chemistry based industries; Research & Development in various scientific/academic institutions.
- Have the ability to disseminate research results orally, and in writing.

**Structure Of Syllabus For Semester Pattern Choice Based Credit System
M.Sc.(Chemistry) Programme Effective From The Session- 2023 – 2024**

FIRST SEMESTER

Course code	Title of the Paper	Credits	Max. Marks		Total
			Mid Sem	End Sem	
CC-101	Inorganic Chemistry-I	05	20	80	100
CC-102	Organic Chemistry-I	05	20	80	100
CC-103	Physical Chemistry-I	05	20	80	100
CC-105	Polymer Chemistry	05	20	80	100
CC-105	Inorganic Chemistry Practical	05	-	100	100
	Total	25	80	420	500

SECOND SEMESTER

Course code	Title of the Paper	Credits	Max. Marks		Total
			Mid Sem	End Sem	
CC-201	Organic Chemistry-II	05	20	80	100
CC-202	Inorganic Chemistry-II	05	20	80	100
CC-203	Physical Chemistry-II	05	20	80	100
CC-205	Organic Spectroscopy	05	20	80	100
CC-205	Physical Chemistry Practical	05	-	100	100
	Total	25	80	420	500

THIRD SEMESTER

Course code	Title of the Paper	Credits	Max. Marks		Total
			Mid Sem	End Sem	
CC-301	Inorganic Chemistry-III	05	20	80	100
CC-302	Organic Chemistry-III	05	20	80	100
CC-303	Research Methodology	05	20	80	100
OEC-305	OEC-Industrial Chemistry	05	-	100	100
CC-305	Organic Chemistry Practical	05	-	100	100
	Total	25	60	420	500

FOURTH SEMESTER

Course code	Title of the Paper	Credits	Max. Marks		Total
			Mid Sem	End Sem	
DEC-401	Bio-Inorganic Chemistry and Supra-Molecular Chemistry	05	20	80	100
DEC-402	Organometallic Chemistry	05	20	80	100
DEC-403	Molecular Spectroscopy	05	20	80	100
DEC-405	Applied Chemistry Practical	05	-	100	100
DC-405	Dissertation	05	-	100	100
	Total	25	60	420	500

SEMESTER -I

INORGANIC CHEMISTRY-I

Course Code: CC-101

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: (i) To understand the concepts of bonding and stereochemistry of main group elements,
(ii) To introduce the concept of symmetry and group theory and their application in chemistry

Outcome: At the end of the course the student will

(i).Acquire the knowledge and have the ability to describe the bonding and stereochemistry of different inorganic compounds and ions. (ii) To understand importance of group symmetry and group theory in chemistry, classifying different compounds in to point groups and derive the character tables for various applications.

UNIT-I Stereochemistry and Bonding in main group compounds:-VSEPR, Walsh diagram (triatomic molecules), $d\pi$ - $P\pi$ bonds, Bent rule and energetics of hybridization, some simple reactions of covalently bonded molecules.

UNIT-II Symmetry and Group Theory Symmetry elements and Symmetry operation:- Symmetry elements & Symmetry Operations, Groups and Subgroups, Relation between orders of a finite Groups and its sub-groups, Symmetry point group. Schonflies symbols, Conjugacy relation and classes, Matrix representations of groups,Representation of Group Operators, Character of a representation. The Great Orthogonality theorem (without proof) and its explanation, Irreducible & Reducible Representation, Basis of Representation,Character tables and their uses. Reduction formula. Derivation of character table for C_{2v} , C_{3v} .

UNIT-III Chemistry of Main Group elements A:General characteristics, Allotropes, Structure and Reactions of simple and industrially important compounds: Boranes, Carboranes, Silicones, Silicates, Boron nitride, Borazines and Phosphazenes, Wade's rule , Styx Number, Isolabal analogy.Lipscom Topology,Application of Boron Compounds,Synthesis and structures of S-N Cyclic compounds

UNIT-IV Chemistry of Main Group elements B : General characteristics, Structure and Reactions of simple and industrially important compounds: Hydrides, Oxides and Oxoacids of pnictogens (N, P), chalcogens (S, Se & Te) and halogens, Xenon compounds, Pseudo halogens and Interhalogen compounds.

Books and References:

1. Symmetry & Group Theory by K.Veera Reddy, New age Publishers.
2. Chemical Application of Group Theory: F. A. Cotton, John Wiley.
3. Symmetry in Chemistry: Orchin and Jaffe.
4. Group theory: K. V. Raman, Tata McGraw Hill.
5. Advanced Inorganic Chemistry: F. A. Cotton and G. Wilkinson, John Wiley.
6. Inorganic Chemistry: J.E. Huheey, E. A. Keiter, R. L. Keiter, Pearson Education.
7. Chemistry of the Elements: N. N. B. Greenwood and A. Earnshaw, Pergamon.
8. Comprehensive Coordination Chemistry eds.,- G. Wilkinson, R. D. Gillars and J. A. McCleverty, Pergamon.
9. Inorganic Chemistry by Catherine E.Housecroft & Alan G.Sharpe.
10. Fundamentals Concepts of Inorganic Chemistry, Volume-2, Asim K. Das and Mahua Das, CBS Publishers and Distributors Pvt. Ltd.

ORGANIC CHEMISTRY-I

Course Code: CC-102
Credits: 05

End Sem-80 marks
Mid Sem-20 marks

Time-3 hour
Time- 1hour

Objective: *To understand the molecular details in greater depth on following topics: aromaticity, stereochemistry, and substitution reactions in aliphatic compounds.*

Outcome: *Upon completion of this course students will be able to: (i) Understand the fundamental aspects of aromaticity, nonaromaticity and antiaromaticity, (ii) Feel the structural details of organic compounds and the origin of optical activity of the chiral molecules, (iii) Understand the origin of stereoselectivity as far as asymmetric catalysis is concern, and the basic mechanism of substitution reactions in aliphatic compounds.*

UNIT-I *Nature of Bonding & Reaction Mechanism:*

- (a) Delocalised Chemical bonding-Conjugation Cross conjugation, Resonance, Hyper Conjugation, Bonding in fullerenes, tautomerism. Aromaticity in Benzenoid & Non-Benzenoids compounds, Alternant & Non-Alternant Hydrocarbons, Huckle's Rule: Energy level of Pie Molecular Orbitals, annulenes, anti-aromaticity, Pseudo-aromaticity, Homo-aromaticity,
- (b) Types of mechanism, types of reactions, thermodynamic and kinetic requirements, kinetic and thermodynamic control, Hammond's postulate, Curtin - Hammett principle. Potential energy diagrams, transition states and intermediates, methods of determining mechanisms, isotope effects. Hard and soft acids and bases. Effect of structure on reactivity: resonance and field effect, steric effect, quantitative treatment. The Hammett equation and linear free energy relationships, substituent and reaction constants. Taft equation.

UNIT-II (a) *Aliphatic Nucleophilic substitution:*

The SN₂, SN₁, mixed SN₁ and SN₂ and SET mechanisms. The neighbouring group mechanism, neighbouring group participation by σ and π bonds, anchimeric assistance. Classical and nonclassical carbocations, phenonium ions, norbornyl system, common carbocation rearrangements. Application of NMR spectroscopy in the detection of carbocations. The SN₁ mechanism: Nucleophilic substitution at an allylic, aliphatic trigonal and a vinylic carbon. Reactivity effects of substrate structure, attacking nucleophile, leaving group and reaction medium, phase transfer catalysis and ultrasound, ambident nucleophile, regioselectivity.

(b) *Aromatic Nucleophilic Substitution:*

The S_NAr, S_Ni benzyne and S_{RN}¹ mechanisms. Reactivity-effect of substrate structure, leaving group and attacking nucleophile. The von Richter, Sommelet-Hauser, and Smiles rearrangements.

UNIT-III (a) *Aliphatic Electrophilic Substitution*

Bimolecular mechanisms - S_E2 and S_Ei. The S_E1 mechanism, electrophilic substitution accompanied by double bond shifts. Effect of substrates, leaving group and the solvent polarity on the reactivity

(b) ***Aromatic Electrophilic Substitution***: The arenium ion mechanism, orientation and reactivity, energy profile diagrams. The ortho/para ratio, Ipso attack, orientation in other ring systems. Quantitative treatment of reactivity in substrates and electrophiles. Diazonium coupling, Vilsmeier reaction, Gattermann- Koch reaction.

UNIT-IV (a) *Free Radical Reactions*

Types of free radical reactions: Free radical substitution, mechanism, mechanism at an aromatic substrate, neighbouring group assistance. Reactivity for aliphatic and aromatic substrates at a bridgehead. Reactivity in the attacking radicals. The effect of solvents on reactivity. Allylic halogenation (NBS), oxidation of aldehydes to carboxylic acids, auto-oxidation, coupling of alkynes and arylation of aromatic compounds by diazonium salts. Sandmeyer reaction, free radical rearrangement, Hunsdiecker reaction.

(b) ***Elimination Reactions***: The E₂, E₁ and E₁cB mechanisms. Orientation of the double bond. Reactivity: Effects of substrate structures, attacking base, the leaving group and the medium. Mechanism and orientation in pyrolytic elimination.

Books and References:

1. Organic chemistry: J. Clayden, N. Greeves, S. Warren and P. Wothers, Oxford University Press.
2. Advanced Organic Chemistry Reactions, Mechanism and Structure: Jerry March. John Wiley and Sons.
3. Advanced Organic Chemistry: F. A. Carey and R. J. Sundberg. Plenum.
4. A Guide Book to Mechanism in Organic Chemistry: Peter Sykes, Longman/Pearson Education.
5. Structure and Mechanism in Organic Chemistry: C. K. Ingold. Cornell University Press.
6. Organic Chemistry: R. T. Morrison and R. N. Boyd. Prentice Hall/Pearson Education.
7. Modern Synthetic Reactions: Second Edition, H. O. House, Benjamin, Menlo Park, 1972.
8. Principles of Organic Synthesis: R. O. C. Norman and J. M. Coxon. Blackie Academic and Professional / CBS Publishers.
9. A logical Approach to Modern Organic Chemistry: Dr. Jagdamba Singh and Dr. S. Anandvardhan. Pragati Prakasan.
10. Reaction Mechanism in Organic Chemistry: S. Mukherji and S. P. Singh, Macmillan.
11. Advanced Organic Chemistry: Reactions and Mechanism: B. Miller and R. Prasad. Pearson-Education.

PHYSICAL CHEMISTRY-I

Course Code: CC-103

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: *The topics covered under the course are inherently very fundamental and intended to provide the basic understanding at atomic, subatomic, interfacial and ion- solvent interaction*

Outcome: *Students will be able to understand the underlying concepts and realization of quantum mechanics. They will be able to solve problems at realistic atomic and molecular level, in particular in the field of spectroscopy and analytical chemistry. They will also be able to analyze the surface phenomenon and distribution of solvent molecules around the ion.*

UNIT-I (a) *Quantum Chemistry:*

The Schrodinger equation and the postulates of quantum mechanics. Discussion of solutions of the Schrodinger equation to some model systems viz. particle in a box, the harmonic oscillator, the rigid rotor, the hydrogen atom.

(b) *Approximation Methods:*

The Helium atom. The variation theorem, linear variation principle, Perturbation theory (first order and non-degenerate). Applications of variation method and perturbation theory to the Helium atom.

UNIT-II *Molecular Orbital Theory:*

H₂⁺ and H₂ molecules: Valence bond theory (VBT) and molecular orbital theory (MOT) approaches. Homonuclear and Heteronuclear diatoms. Huckel theory of conjugated systems, bond order and charge density calculation. Applications to ethylene, butadiene, cyclopropenyl radical, and cyclobutadiene.

UNIT-III *Surface Chemistry:* (a) *Adsorption:* Surface tension, capillary action, pressure difference across curved surface (Laplace equation), vapour pressure of droplets (Kelvin equation). Gibbs adsorption isotherm, estimation of surface area (BET equation), surface films on liquids (Electrokinetic phenomenon), catalytic activity at surfaces.

(b) *Micelles:* Surface active agents, classification of surface active agents, micellization, hydrophobic interaction, critical micellar concentration (CMC), factors affecting the CMC of surfactants counter ion binding to micelles, thermodynamics of micellization, phase separation and mass action models, solubilization, micro emulsion, reverse micelles.

UNIT-IV *Electrochemistry:*

Electrochemistry of solutions. Debye-Huckel–Onsager treatment and its extension, ion solvent interactions. Debye-Huckel-Bjerrum model. Solution of Strong electrolytes. Debye Huckel theory for activity coefficient of electrolytic solutions; determination of activity and activity coefficients; ionic strength. Thermodynamics of electrified interface equations. Derivation of electro-capillarity, Lippmann equations (surface excess), methods of determination. Structure of electrified interfaces, Helmholtz-Perrin, Guoy–Chapman,

Stern models. Over potentials, exchange current density, derivation of Butler– Volmer equation, Tafel plot

Books and References:

1. Atkin's Physical Chemistry: P. W. Atkins, J. D. Paula, Oxford University Press
2. Introductory to Quantum Chemistry: 4th Ed., A. K. Chandra, TataMc Graw Hill.
3. Quantum Chemistry: Ira N. Levine, Prentice Hall.
4. A text Book Of Quantum Chemistry, R.K.Prasad
5. D. Chandler, Introduction to Modern Statistical Mechanics, Oxford University Press 1987.
6. Physical Chemistry Vol-II: .K. L. Kapoor, Mcmillan Publication.
7. Micelles, Theoretical and Applied Aspects, V. Moroi, Plenum.
8. Modem Electrochemistry: Vol.-I and Vol. II, J. O. M. Bockris and A. K. N. Reddy, Plenum.
9. An Introduction to electrochemistry: S. Glasstone, Affiliated East-West Press Pvt. Ltd.
10. Quantum Chemistry, Donald A. McQuarrie, Viva Books Private Limited.

POLYMER CHEMISTRY

Course Code: CC-105

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: *To study the fundamental concepts of polymer chemistry, structure of monomers, functionality, and classification of polymers on the basis of source, composition, conditions, molecular weight, geometry, industrial polymer fabrication process, and nomenclature of polymers.*

Outcome: *After the completion of course students will able to understand about the basics of polymer and the differences between crystalline melting temperature and glass transition temperature, as well as the effect of kinetics on both, develop specific skills, competencies, and thought processes sufficient to support further study or work in this field of polymer chemistry, evaluate the effect of factors such as polymer structure, molecular weight, branching and diluents on crystallinity, and apply knowledge to build up small scale industry for developing endogenous plastic product.*

UNIT I *Basics Importance of Polymers Basic concepts:* Monomers, repeat units, degree of polymerization, Linear, branched and network polymers. Classification of Polymers. Polymerization Process, Condensation, Addition, Radical chain, Ionic and Co-ordination and Co-polymerization. Polymerization conditions and polymer reactions. Polymerization in homogeneous and heterogeneous systems.

UNIT II *Polymer Characterization :* Polydispersion-average molecular weight concept. Number, weight and viscosity average molecular weights. Polydispersity and molecular weight distribution. The practical significance of molecular weight. Measurement of molecular weights-End-group, viscosity, light scattering, osmotic and ultracentrifugation methods.

UNIT III *Structure, morphology and properties of polymer:* Morphology and order in crystalline polymers-configurations of polymer chains. Crystal structures of polymers- Crystalline, Amorphous structure. Factors affecting crystallinity, degree of crystallinity, techniques to determine the degree of crystallinity, morphology of crystalline polymer, strain induced morphology, properties affected by crystallinity, Glass transition temperature: effects of molecular weight, diluents, chemical structure, chain topology, branching and cross linking on glass transition temperature. T_m -melting points of homogeneous services: effect of chain flexibility, steric factor, entropy, and heat of fusion on T_m . Relation between T_g and T_m , Property requirements and polymer utilization.

UNIT IV *Polymer Processing:* Plastics, elastomers, and fibers. Resin, Compounding, Additives (crosslinking agent, UV stabilizer, fire retardant, coloring agent, plasticizer, and others). Processing techniques: Calendaring, die casting, rotational casting, film casting, injection molding, blow molding, extrusion molding, reinforcing, pultrusion and fiber spinning. Properties of Commercial Polymers Polyethylene, polyvinyl chloride, polyamides, polyesters, phenolic resins, epoxy resins and silicone polymers. Functional polymers – Fire retarding polymers and electrically conducting polymers

(PANI, Polyacetylene). Polymer in Biomedical applications: contact lens, dental polymers, artificial heart, kidney, skin, and blood cells.

Books and References

1. Text book of Polymer Science, F.W. Billmeyer, Jr. Wiley.
2. Polymer Science, V.R. Gowariker, N.V. Viswanathan and J. Sreedhar, Wiley-Eastern.
3. Functional Monomers and Polymers, K. Takemoto, Y. Inaki and R.M. Ottanbrite.
4. Contemporary Polymer Chemistry, H.R. Alcock and F.W. Lambe, Prentice Hall.

INORGANIC CHEMISTRY PRACTICAL

Course Code: CC-105

End Sem-100 marks

Time-6 hour

Credits: 05

Objective: (i) Qualitative analysis of inorganic salts mixture containing acid and basic radicals with insoluble compound (ii) To separate the mixture of metal ions by volumetric and gravimetric analysis (iii) To learn the best laboratory practice for the synthesis of some inorganic materials.

Outcome: (i) Ability to separate and identify different cations and anion from a mixture of inorganic salts. (ii) Understanding the principles of separation and analysis of different metal ions and their applications in real fields. (iii) Learn the synthesis and applications of Wilkinson's catalyst.

1. Qualitative analysis of mixtures containing not more than eight radicals [less common metal ions Mo, W, Ti, V, Zr, U (two metal ions in cationic / anionic forms), insoluble-oxides, sulphates and halides may be included].
2. Separation and determination of two metal ions Cu-Ni, Ni-Zn, Cu-Fe etc. involving volumetric and gravimetric methods.
3. Synthesis of bulky Schiff base (Ketimine/ diketimine/ phenolate) transition metal complexes.
4. Preparation of some selected inorganic compounds and their study. Handling of air and moisture sensitive compounds. (a) $\text{Mn}(\text{acac})_3$, (b) $\text{K}_3[\text{Fe}(\text{C}_2\text{O}_4)_3]$, (c) $[\text{Ni}(\text{NH}_3)_6]\text{Cl}_2$, (d) $[\text{Ni}(\text{dimg})_2]$, (e) $[\text{Cu}(\text{NH}_3)_4] \cdot \text{SO}_4 \cdot \text{H}_2\text{O}$, (f) Cis - and Trans $[\text{Co}(\text{en})_2]\text{Cl}_2$.
5. A. Synthesis of Wilkinson's catalyst
B. Reaction of Wilkinson's catalyst with Cyclohexene
C. Reaction of Wilkinson's catalyst with Hydrogen.

Books and References:

1. Inorganic Experiments: J. Derck Woollins, VCH.
2. Microscale Inorganic-chemistry; Z.Szafran, RM. Pike and M.M.Singh. Wiley.
3. Practical Inorganic Chemistry: G.Marr and B.W. Rockett, van, Nostrand.
4. Vogel's Qualitative Inorganic Analysis (revised) : G. Svehla, Longman.

SEMESTER -II

ORGANIC CHEMISTRY-II

Course Code: CC-201
Credits: 05

End Sem-80 marks
Mid Sem-20 marks

Time-3 hour
Time- 1hour

Objective:

To understand the molecular details in greater depth on following topics: aromaticity, stereochemistry, and substitution reactions in aliphatic compounds.

Outcome: *Upon completion of this course students will be able to: (i) Understand the fundamental aspects of aromaticity, nonaromaticity and antiaromaticity, (ii) Feel the structural details of organic compounds and the origin of optical activity of the chiral molecules, (iii) Understand the origin of stereoselectivity as far as asymmetric catalysis is concern, and the basic mechanism of substitution reactions in aliphatic compounds.*

Unit-I (a) Stereochemistry: Conformational analysis of cycloalkanes, decalins, effect of conformation on reactivity, conformation of sugars, steric strain due to unavoidable crowding. Elements of symmetry, chirality, molecules with more than one chiral center, R-S and E-Z conventions, threo and erythro isomers, methods of resolution, optical purity, enantiotropic and diastereotropic atoms, groups and faces, stereospecific and, stereoselective synthesis. Asymmetric synthesis, Optical activity in the absence of chiral carbon (biphenyls, allenes, spiranes, transcycloalkene and metallocenes), chirality due to helical shape. Stereochemistry of the compounds containing nitrogen, sulphur and phosphorus.

UNIT-II (a) Addition to Carbon-Carbon Multiple Bonds: Mechanistic and stereochemical aspects of addition reactions involving electrophiles, nucleophiles and free radicals, selectivity, orientation and reactivity, Electrophilic cyclization, Baldwin's rule. Hydrogenation of double and triple bonds, hydrogenation of aromatic rings. Hydroboration, Michael reaction. Sharpless asymmetric epoxidation.

(b) Addition to Carbon-Hetero Multiple Bonds: Mechanism of metal hydride reduction of saturated and unsaturated carbonyl compounds, acids, esters and nitriles. Addition of Grignard reagents, organozinc and organolithium reagents to carbonyl and unsaturated carbonyl compounds. Wittig reaction. Mechanism of condensation reactions involving enolates, Aldol, Knoevenagel, Claisen, Mannich, Benzoin, Perkin and Stobbe reactions.

UNIT-III Pericyclic Reactions: Molecular orbital symmetry, Frontier orbitals of ethylene, 1,3-butadiene, 1,3,5-hexatriene and allyl system. Classification of pericyclic reactions. Woodward-Hoffmann correlation diagrams. FMO and PMO approach. Electrocyclic reactions, conrotator and disrotatory motions; $4n$, $4n+2$ and allyl systems. Cycloadditions, antarafacial and suprafacial additions; $4n$ and $4n+2$ systems, $2+2$ addition of ketenes. $1,3$ -dipolar cycloaddition and cheletropic reactions. Sigmatropic rearrangements - suprafacial and antarafacial shifts of H, sigmatropic shifts involving carbon moieties, $3,3$ - and $5,5$ - 10 sigmatropic rearrangements: Claisen, Cope and aza-Cope rearrangements. Fluxional tautomerism. Ene reaction.

UNIT IV *Photochemistry:*

(a) Principles, Thermal and photochemical reactions, Laws of photochemistry, Interaction of electromagnetic radiation with matter, types of excitations, fate of excited molecule (singlet, triplet state), Jablonski diagram (fluorescence, phosphorescence, delayed fluorescence), Excimer, Exciplex, quantum yield/quantum efficiency, transfer of excitation energy (Sensitization & quenching), Actinometry. Types of photochemical reactions – photo-dissociation, gas-phase photolysis.

(b) Intramolecular reactions of the olefinic bond – geometrical isomerism, cyclisation reactions, rearrangement of 1,4 – and 1,5 – dienes, Di- π methane rearrangement.

Intramolecular reactions of carbonyl compounds – saturated, cyclic and acyclic, β,γ -unsaturated and α,β -unsaturated compounds, Norrish type I and II reaction, Paterno-Buechi Reaction, Cyclohexadienones, Photodimerisation of carbonyl compounds.

Books and References:

1. Organic chemistry: J. Clayden, N. Greeves, S. Warren and P. Wothers, Oxford University Press.
2. Advanced Organic Chemistry Reactions, Mechanism and Structure: Jerry March. John Wiley and Sons.
3. Modern Methods of Organic Synthesis, W. Carruthers and I. Coldham, Oxford University Press.
4. Modern Organic Synthesis An Introduction, George S. Zweifel and Michael H. Nantz, W.H. Freeman and Company, New York
5. Advanced Organic Chemistry: FA Carey and RJ. Sundberg. Plenum.
6. Photo Chemistry and Pericyclic Reactions: Jagdamba Singh and Jaya Singh, New Age International.
7. Stereochemistry : Conformation and mechanism, P.S. Kalsi, New Age International Publication
8. Stereochemistry of Organic Compounds: Principles and Applications, D. Nasipuri, New Age International Publication
9. Stereochemistry of Organic Compounds: E. L. Eliel and S. H. Wilen. John Wiley
10. Stereochemistry of Organic Compounds: P. S. Kalsi, New Age International.
11. Pericyclic Reactions, S. M. Mukherji, Macmillan, India.
12. Conservation of Orbital Symmetry, R.B. Woodward and R. Hoffman
13. Organic Reactions and Orbital Symmetry, R. C. Storr, T. L. Gilchrist
14. Fundamentals of Photochemistry, K.K. Rohtagi-Mukherji, Wiley-Eastern.
15. Molecular Photochemistry, N.J. Turro, W.a. Benjamin.
16. Introductory Photochemistry, A. Cox and T. Camp. McGraw-Hill.
17. Photochemistry, R.P. Kundall and A. Gibert, Thomson Nelson.
18. Organic Photochemistry, J. Coxon and B. Halton, Cambridge University Press.

INORGANIC CHEMISTRY-II

Course Code: CC-202
Credits: 05

End Sem-80 marks
Mid Sem-20 marks

Time-3 hour
Time- 1hour

Objective: 1. To understand the theoretical basis of bonding of structurally different coordination compounds. 2. To understand the basis of electronic spectra of metal complexes as well as to understand the basis of anomalous magnetic behaviour of metal complexes. 3. To impart knowledge on preparative methods, structure and bonding of metal- π complexes and clusters.

Outcome: On completion of this course student will be able to: 1. Understand and explain the bonding in coordination and organometallic compounds. Describe the fundamental requirement to interpret the electronic spectra of metal complexes for prediction of their properties. 2. Describe the synthesis, structure and bonding of metal carbonyls, metal nitrosyls, dioxygen, dinitrogen complexes as well as metal clusters.

UNIT-I: *Electronic Spectra of Transition Metal Complexes:* Spectroscopic ground states, Orgel diagrams for d1 -d9 states in Oh and Td symmetry, Tanabe-Sugano diagrams for d2 configuration in Oh and Td symmetry. Calculations of Dq, B and β parameters.

UNIT-II *Metal-Ligand Bonding:*

Crystal-Field Theories: Limitation of Crystal Field Theory, Molecular orbital theory for Octahedral, Tetrahedral and Square Planar Complexes, σ and π bonding in Molecular Orbital Theory. Application of MOT to Correlation diagrams.

UNIT-III: *Chemistry of Transition Elements:* Coordination chemistry of Transition Metal ions, Stabilization of Unusual oxidation states, Stereochemistry of coordination compounds, Splitting of d-orbitals in Low symmetry environment, Jahn-Teller effect, Interpretation of Electronic Spectra including Charge Transfer Spectra, Spectrochemical series, Nephelauxetic series, Fluxional molecules, Iso and Hetero Poly acids. Structures of Mixed Metal Oxides: Spinel & Inverse Spinel, Ilmenite and Perovskite structure, Coloured Minerals and Gem quality crystals.

UNIT-IV: *Chemistry of Inner Transition Elements:*

Chemistry of Lanthanides and Actinides: Lanthanide Contraction, Separation of Lanthanide elements, Oxidation state, Spectral and Magnetic Properties, Stereochemistry, Use of Lanthanide Compounds as Shift reagents, Actinide contraction, Oxidation states, Comparisons between Lanthanides and Actinides.

Books and References:

1. Advanced Inorganic Chemistry: A Comprehensive Text: F. A. Cotton and G. Wilkinson, John Wiley.
2. Inorganic Chemistry: Principles of Structure and Reactivity: J. E. Huheey, E. A. Keiter and R. L. Keiter, Addison Wesley Publishing Company.
3. Comprehensive Coordination Chemistry eds.: G. Wilkinson, R. D. Gillars and J. A. McCleverty, Pergamon.
4. Inorganic chemistry: Gary L. Miessler, Donald A. Tarr, Pearson

PHYSICAL CHEMISTRY-II

Course Code: CC-203

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: *The topics covered under the course are inherently very fundamental and intended to provide the basic understanding at atomic and subatomic level. The objective of the course to study and understand the concept of energy, the transfer of energy into work, capacity of energy to function, entropy, enthalpy, chemical potentials, thermodynamic laws, criterion for determination of the feasibility or spontaneity of a given transformation, partial molar properties, their determinations. The course is designed in a manner in which a bridge between classical thermodynamics and quantum mechanics can be established.*

Outcome: *Understanding the underlying concepts and realization of quantum mechanics will be useful in solving problems at realistic atomic and molecular level, in particularly in the field of spectroscopy and analytical chemistry. Understanding thermodynamics requires knowledge of how the microscopic world operates and importance of reversible and irreversible processes.*

UNIT-I Classical Thermodynamics: Brief resume of concepts of laws of thermodynamics, entropy and free energy. The concept of chemical potential and partial molar properties; partial molar free energy, partial molar volume and partial molar heat content and their significance. Determination of these quantities. Concept of fugacity and determination of fugacity. Activity, activity coefficient, Debye-Huckel theory for activity coefficient of electrolytic solutions; determination of activity and activity coefficients, ionic strength.

UNIT-II Phase Diagram: Phase behavior of one and two component systems (solid-solid, solid-liquid, solid-vapor, liquid-liquid, liquid-vapor equilibrium). Ehrenfest classification of phase transitions.

UNIT-III Statistical Thermodynamics:

Concept of distribution, thermodynamic probability and most probable distribution. Ensemble averaging, postulates of ensemble averaging, Canonical, grand canonical and microcanonical ensembles, corresponding distribution laws (using Lagrange's method of undetermined multipliers) Partition functions-translational, rotational, vibrational and electronic partition functions, calculation of thermodynamic properties in terms of partition function. Fermi-Dirac statistics, distribution law and application to metal. Bose-Einstein statistics - distribution law and application to helium.

UNIT-IV Chemical Dynamics : Potential energy surfaces. Collision theory of reaction rates, Conventional transition state theory (CTST); CTST as applied to ionic reactions, kinetic salt effects. steady state kinetics. Kinetic and thermodynamic control of reactions. Treatment of unimolecular reactions. dynamics of unimolecular reactions (Lindemann- Hinshelwood and Rice Ramsperger - Kassel Marcus (RRKM) theories of unimolecular reactions). Dynamics chain (hydrogen-bromine reaction, pyrolysis of acetaldehyde, decomposition of ethane), photochemical (hydrogen -bromine and hydrogen - chlorine reactions) and oscillatory reactions (Belousov- Zhabotinski reaction), homogeneous catalysis, kinetics of enzyme reactions. General features of

fast reactions, study of fast reactions by flow methods, relaxation methods, Flash photolysis. Dynamics of barrier less chemical reactions in solution.

Books and References

1. A textbook of Physical chemistry – H.K. Moudgil
2. Physical Chemistry, T. Engel and P. Reid, Pearson, 2006, 1st edition, New Delhi.
3. Thermodynamics, G. N. Lewis and M. Randall, McGraw Hill, 2nd edition, 1961, New York.
4. Molecular Thermodynamics, D. A. McQuarrie and Simon. Viva, 2009, 1st edition, New Delhi.
5. Non Equilibrium Thermodynamics, S.R. deGroot and Mazur, Dover, New York.
6. Introductory Statistical Thermodynamics, T. Hill, Dover, 1986, New York.
7. Statistical Thermodynamics, Oxford, Oxford Chemistry Primer vol. 58, 1997.
8. Introduction to Statistical Mechanics, R. Bowley and M. Sanchez, Clarendon press,
9. Statistical Mechanics and Thermodynamics, C. Garrod, Oxford Univ. Press, 1995, New York.
10. Introduction to thermodynamics of irreversible processes, 2nd edition, Interscience, 1961, New York
11. Chemical Kinetics, K.J.Laidler, Mcgraw-Hill.
12. Kinetics and Mechanism of Chemical Transformations, J.Rajaraman and J.Kuriacose, McMillan.
13. Fast Reaction – D.N.Hague
14. Chemical Kinetics and Dynamics–2 nd Edn. , JISteinfeld, J.S.Fransis Co, W.L.Hase , Beutic Hall (1999).
15. Physical Chemistry- G. K Vemulapalli
16. Physical Chemistry- George Woodbury, Brooks cole
10. Statistical Thermodynamics: M. C. Gupta, New Age Pvt Publication..

ORGANIC SPECTROSCOPY

Course Code: CC-205

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: *To impart knowledge of different spectroscopic technique for structural elucidation of organic compounds.*

Outcome: *Upon completion of this course students will be able to understand how Ultraviolet and Visible Spectroscopy, Infrared Spectroscopy, Nuclear Magnetic Resonance Spectroscopy and Mass Spectrometry are powerful technique to analyze the structural details of organic compounds, and predict different unknown compound based on UV-Vis, IR, ¹HNMR, ¹³CNMR and mass spectroscopic data.*

UNIT-I Ultraviolet and Visible Spectroscopy:

Various electronic transitions, Beer Lambert law, effect of solvent on electronic transitions, ultraviolet bands for carbonyl compounds, unsaturated carbonyl compounds, dienes, conjugated polyenes, Woodward- Fieser rules for conjugated dienes and carbonyl compounds, ultraviolet spectra of aromatic and heterocyclic compounds, steric effect in biphenyls.

UNIT-II Infrared spectroscopy: Instrumentation and sample handling, characteristics vibrational frequencies of alkanes, alkenes, alkynes, aromatic compounds, alcohols, ethers, phenols and amines, Detail study of vibrational frequencies of carbonyl compounds (ketones, aldehydes, esters, amides, acids, amides, acids, anhydrides, lactones, lactams, and conjugated carbonyl compounds), Effect of hydrogen bonding and solvent effect on vibrational frequencies, overtones, combination bands and Fermi resonance, FTIR, IR of gaseous, solid and polymeric materials.

UNIT III: (a) Nuclear Magnetic Resonance Spectroscopy (NMR): General introduction and definition, chemical shift, spin-spin interaction, shielding mechanism, mechanism of measurement, chemical shift values and correlation for protons bonded to carbon (aliphatic, olefinic, aldehydic, and aromatic compounds) and other nuclei (alcohols, phenols, enols, carboxylic acids, amines, amides, and mercapto), chemical exchange, effect of deuterium, complex spin-spin interaction between two, three, four and five nuclei (first order spectra), virtual coupling, stereochemistry, hindered rotation, Karplus curve-variation of coupling constant with dihedral angle, simplification of complex spectra, nuclear magnetic double ¹³C resonance, NMR shift reagents, solvent effects, Fourier transform technique, nuclear overhauser (NOE). Resonance of other materials.

(b) Carbon-13 NMR spectroscopy: General considerations, chemical shift (aliphatic, olefinic, alkyne, aromatic, heteroaromatic and carbonyl carbon), coupling constants. Two dimension NMR spectroscopy – COSY, NOESY, DEPT, APT and INADEQUATE techniques.

UNIT IV Mass spectrometry: Introduction, ion production – EI, CI and FAB factors affecting fragmentation, ion analysis, ion abundance, mass spectral fragmentation of organic compounds, common functional groups, molecular ion peak, metastable peak, McLafferty rearrangement, nitrogen rule, high resolution

mass spectrometry, examples of mass spectral fragmentation of organic compounds with respect to their structure determination.

Books and References

1. Introduction to Spectroscopy , Donald L. Pavia, Garry M. Lampman and George S. Kriz, Cengage India Pvt. Ltd
2. Spectroscopy of Organic compounds, P.S. Kalsi, New Age Publishher
3. Silverstein, R. M.; Webster, F. X. Spectrometric identification of organic compounds; 6th ed.; Wiley: New York, 1998.
4. Lambert, J. B; Shurvell, H. F, Organic structural spectroscopy, Prentice Hall, 1998.
5. Kemp, W. Organic spectroscopy; 3rd ed.; Macmillan Education: Houndmills, Basingstoke, Hampshire, 1991.
6. Levitt, Malcolm H.; Spin Dynamics-Basics of Nuclear Magnetic Resonance, Second edition; John Willey & Sons Ltd.

PHYSICAL CHEMISTRY PRACTICAL

Course Code: CC-205

End Sem-100 marks

Time-6 hour

Credits: 05

Objective: The laboratory course is framed on the basis of instruments such as conductivity meter, pH meter and potentiometer, where a number of experiments based on conductivity measurement, pH measurement and potential measurement can be performed.

Outcome: It is believed that students performing the experiments will be capable of handling the conductivity meter, pH meter and potentiometer. Also it gives a real feel of the electrochemistry, such a verification of Debye-Huckel-Onsager equation, neutralisation of weak acids, determination of K_{sp} of sparingly soluble salt and conductometric titrations, which are taught in theory.

Chemical Kinetics:

1. Saponification of ethylacetate with sodium hydroxide by chemical method.
2. Comparison of strength of acids by ester hydrolysis
3. Determination of energy of activation of acid catalyzed hydrolysis of methyl acetate.
4. Determination of velocity constant of hydrolysis of an ester/ionic reaction in micellar media.

Adsorption:

1. Adsorption of acetic acid and oxalic acid on animal charcoal and verification of Freundlich isotherm.
2. Study of the surface tension – concentration relationship for solutions (Gibb's equation)

Phase equilibria:

1. Determination of critical solution temperature of phenol-water system.
2. Construction of phase diagram for a three component system (chloroform-acetic acid – water).

Electrochemistry:

Conductometry:

1. Determination of strength of strong acid and weak acid in given mixture conductometrically.
2. Determination of solubility and solubility product of a sparingly soluble salt (i.e., $PbSO_4$, $BaSO_4$) conductometrically.
3. Determination of hydrolysis constant of aniline hydrochloride conductometrically

Potentiometry:

4. Determination of strength of halides in a mixture potentiometrically.
5. Determination of the formation constant of silver amine complex and stoichiometry of the complex potentiometrically.
6. Estimation of ferrous iron in ferrous ammonium sulphate potentiometrically.
7. Potentiometric titration of a strong acid with strong base using quinhydrone electrode.

pH metry:

8. Determination of first and second ionization constants of phosphoric acid by pH meter.
9. Determination of hydrolysis constant of aniline hydrochloride by pH meter.
10. Verification of Debye-Huckel-Onsager equation of conductance.

Books and References:

1. Experimental physical chemistry: R. C. Das and B. Behera, Tata McGraw Hill.
2. Findlay's practical chemistry (revised): B. P. Levitt, Longman.
3. Advanced practical physical chemistry: J. B. Yadav, Goel publishing house, Meerut. 21

SEMESTER – III

INORGANIC CHEMISTRY III

Course Code: CC-301
Credits: 05

End Sem-80 marks
Mid Sem-20 marks

Time-3 hour
Time- 1hour

Objective: (i) *To learn about the formation and stability of metal complexes and their determination and (ii) Mechanistic aspects of different types of reaction of metal complexes in solution.*

Outcome: *At the end of the course the student will (i) Be able understand the concept stability constant, its determination and application in different fields (ii) Understand the reactions and mechanism of different types of reactions in coordination compounds and their applications in practical fields*

UNIT –I (a) Metal π –Complex: Metal Carbonyls, Structure and Bonding, Important reactions of metal carbonyls; Preparation, Bonding, Structure and Important Reactions of Transition Metal Nitrosyl, Dinitrogen and Dioxygen Complexes ligands. **(b) Metal clusters:** Metalloboranes, Metallocarboranes, Metal carbonyls and Metal halide clusters.

UNIT –II Metal -Ligand Equilibria in Solution: Stepwise and Overall formation constants and their interaction, trends in stepwise constants. Factors affecting the Stability of metal complexes with reference to the nature of metal ion and ligand. Chelate effect, Macrocyclic effect and its thermodynamic origin. Determination of Binary Formation Constants by pHmetry and Spectrophotometry.

UNIT-III Reaction Mechanism of Transition Metal Complexes (Part-A): Energy profile of a reaction, Reactivity of metal complexes, Inert and Labile complexes, Kinetic application of Valence Bond and Crystal field theories, Kinetics of Octahedral substitution, Acid hydrolysis, Factors affecting acid hydrolysis and base hydrolysis, Conjugate base mechanism, direct and indirect evidences in favour of conjugate base mechanism.

UNIT-IV Reaction Mechanism of Transition Metal Complexes (Part-B): Anation reactions, k-exchange, reaction without metal ligand bond cleavage. Substitution reactions in square planar complexes. The trans effect, mechanism of one electron transfer reactions, Outer sphere reactions, Marcus-Hush Theory, Inner sphere type reactions.

Books and References:

1. Advanced Inorganic Chemistry: A Comprehensive Text: F. A. Cotton and G. Wilkinson, John Wiley.
2. Inorganic Chemistry: Principles of Structure and Reactivity: J. E. Huheey, E. A. Keiter and R. L. Keiter, Addison Wisley Publishing Company.
3. Comprehensive Coordination Chemistry eds.: G. Wilkinson, R. D. Gillars and J A McCleverty, Pergamon.
4. Advanced Inorganic Chemistry: F. A. Cotton, G. Wilkinson, C. A. Murillo and M. Bochmann, John Wiley and Sons.
5. Fundamentals Concepts of Inorganic Chemistry, Volume -5, Asim K. Das and Mahua Das, CBS Publishers and Distributors Pvt. Ltd.

ORGANIC CHEMISTRY-IV

Course Code: CC-302

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: *To impart knowledge of oxidation, reduction, some selective name reactions, disconnection approach and heterocyclic chemistry*

Outcome: *Upon completion of this course students will be able to understand the reactivity pattern and underlying reaction mechanism of different oxidizing and reducing reagents, and understand the art of selective protection and deprotection of alcohol, amine, carbonyl and carboxyl groups in organic compounds and the chemistry of heterocyclic compounds*

UNIT- I (a) Oxidation: Introduction, different oxidative processes, hydroborations alkanes, alkenes, aromatic rings, saturated C-H groups (active and unactivated), alcohols, diols, aldehydes, ketones, ketals, and carboxylic. Amines, hydrazines and sulphides, Oxidation with ruthenium tetraoxide, iodobenzene diacetate and thallium III) nitrate, oxidation with IBX, Dess-martin periodinane, PDC (Pyridinium Dichromate), PCC (Pyridinium Chlorochromate). Swern oxidation.

(b) Reduction: Introduction: Different reductive processes, hydrocarbons alkanes, alkenes, alkynes and aromatic ring, Carbonyl compounds: aldehydes, ketones, acids and their derivatives. Epoxides, Nitro, nitroso, azo, oxime groups, hydrogenolysis, Clemmenson's reduction, Wolff kishner reduction & Luche reduction.

UNIT- II Selective organic name reactions: Favorski reaction, stock enamine reaction, Mannich reaction, Sharpless asymmetric epoxidation, ene reaction, barton reaction, Baeyer-Villiger reaction, Chichibabin reaction, Claisen condensation, Claisen reduction, Curtius Rearrangement, Demjanov rearrangement, Dieckmann condensation, Favorskii rearrangement, Horner-Wadsworth-Emmons olefination, Wittig olefination, Wolff-kishner reduction, Mitsunobu reaction, Fries rearrangement, Peterson olefination, McMurry Coupling.

UNIT-III Disconnection approach: An introduction to synthons and synthetic equivalents, disconnection approach, functional group interconversions, the importance of the order of events in organic synthesis, one group C-X and two groups C-X disconnections, chemoselectivity, reversal of polarity (umpolung reaction), cyclisation reactions, amine synthesis. (b) Protecting groups: Principle of protection of alcohol, amine, carbonyl, carboxyl groups and Umpolung Reaction (c) One group C-C disconnection: Alcohols and carbonyl compounds, regioselectivity. Alkene synthesis, use of acetylenes and aliphatic nitro compounds in organic synthesis. (d) Two group C – C disconnection: Diels-Alder reaction, 1,3 – difunctionalized compounds, alpha, beta- unsaturated carbonyl compounds, control in carbonyl condensations, 1,5 – difunctionalized compounds, Michael addition and Robinson annelation. (e) Chemistry of Natural Products: Application of Disconnection approach in the construction of biomolecules like Synthesis of Camphor, Longifoline & Juvabione.

UNIT-IV Heterocyclic Chemistry : Principles of heterocyclic synthesis involving cyclisation reactions and cycloadditions. Three-membered and four-membered

heterocycles: Synthesis and reactions of Aziridines, Oxiranes, thiranes, azetidines, Oxetanes and thietanes. (ii) Benzo fused Five-Membered Heterocycles: Synthesis and reactions including medicinal applications of benzopyrroles, benzofurans and benzothiophenes. (iii) Nitrogen Containing heterocyclic: Synthesis and reactivity of pyridine, quinoline, Isoquinoline and Indole. Skraup Synthesis, Fisher Indole Synthesis.

Books and References:

1. Advanced Organic Chemistry; Reactions Mechanism and Structure: Jerry March, John.Wiley.
2. Advanced Organic Chemistry: F. A. Carey and R. J. Sundberg, Part-B. 3. Principles of Organic Synthesis: R. O. C. Norman and J. M. Coxon, Blackie Academic & Professional
4. Reaction Mechanism in Organic Chemistry: S. M. Mukherjee and S. P. Singh, Macmillian. India. Ltd.
5. Organic Chemistry: J. Clayden, N. Greeves, S. Warren and P. Wothers, Oxford University Press.
6. Organic Reactions and Orbital Symmetry: T. L. Gilchrist and R. C. Storr, Cambridge at the University Press.
7. Photo Chemistry and Pericyclic Reactions : Jagdamba Singh and Jaya Singh, New Age International.
8. Mechanism and Theory in Organic Chemistry: Thomas H. Lowry, Addison Wesley.
9. Named reaction by Jie Jack Li.

RESEARCH METHODOLOGY

Course Code: CC-303

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: *To impart knowledge of Scientific research,documentation and scientific writing, data analysis and computer applications.*

Outcome: *Upon completion of this course students will be able to understand the research methodology, formulation of objective, literature survey, scientific writing and computer applications in chemistry.*

UNIT-I(a)Scientific Research-

Defination,characterstics,types, need of research,Identification of the problem,assessing the status of the problem, formulating the objectives, preparing design,Actual investigation.

(b) Literature Survey:- primary sources (Journals and Patents),Secondary resources (abstract,CA,collective indexes,reviews, awareness service, general treatise, monographs on specific areas, reference books),basic ideas of literatures,search on web(sci-finder,scopus,Scirus,sciencedirect),Citation index,impact factor of research papers.

UNIT-II Documentation and scientific writing:-organization and writings of manuscripts papers,monographs,authored books,thesis writings,srtructure and components of research reports,Type of report:Research papers,thesis,Research project reports,picture and graphics,citation styles,writing a review paper,bibliography.

UNIT-III Statistical methods of data analysis

Role of analytical chemistry,classification of analytical methods,classical and instrumental,types of instrumental analysis,selection of analytical methods,errors in analytical chemistry,classification of errors,source and minimization of errors,absolute and relative error,accuracy and precession,significant figures,Test of significance(F-test,student T-test,paired test,T-test),mean value and deviation,average and standard deviation,median value ,confidence intervals,least square methods of fitting lionear equations,correlation co-efficients and co-efficient of determination.

UNIT-IV- Computer applications in chemistry:-introduction to computer and IT,data and information,General features of a computer,softwares and its types,application of softwares packages in chemistry,computatio0nal chemistry.Application of some computer packages(MS-Excel,Origin,Chem-Draw) to chemistry,computer techniques used in chemistry with special reference to UV-Visible spectroscopy,FTIR,XRD.

Books and References:-

1. Research Methodology: Methods & Technique, C.R. Kothari, Wiley EastenLtd, New Delhi 1985.
2. Research Methodology, G. C. Ramamurthy, Dreamtech Press.
3. Research Methodology: A step by step Guide for Beginners 2nd edn. Kumar Ranjit, Pearson Education, Singapore, 2005.
4. Introduction to Research & Research Methodology, M. S. Sridhar.
5. Analytical Chemistry, G. D. Christian, 6th Edn, Wiley Student Edition.

OPEN ELECTIVE

INDUSTRIAL CHEMISTRY

Course Code: OEC-305

End Sem-100 marks

Time- 3 hour

Credits: 05

Objective: To impart knowledge on Silicate, fertilizers, cements, sugars, oils, fats, soaps, soaps & detergent and fuel industries.

Outcome: Upon completion of this course students will be able to understand the synthetic methods and applications of glass, ceramics, fertilizers, cements, and can able to analyze chemical products for industrial applications.

Unit-I, Silicate Industries:-

(A) Glass: Glassy state and its properties, classification (silicate and non-silicate glasses). Manufacture and processing of glass. Composition and properties of the following types of glasses: Soda lime glass, lead glass, armoured glass, safety glass, borosilicate glass, fluorosilicate, coloured glass, photosensitive glass.

(B) Ceramics: Important clays and feldspar, ceramic, their types and manufacture. High technology ceramics and their applications, superconducting and semiconducting oxides, fullerenes carbon nanotubes and carbon fibre.

Unit-II

(A) Fertilizers:-

Different types of fertilizers. Manufacture of the following fertilizers: Urea, ammonium nitrate, calcium ammonium nitrate, ammonium phosphates; polyphosphate, superphosphate, compound and mixed fertilizers, potassium chloride, potassium sulphate.

(B) Cements:-

Classification of cement, ingredients and their role, Manufacture of cement and the setting process, quick setting cements.

(C) Sugar:- Extraction of juice, Purification of juice:-defection, classification by sulphitation and carbonation process; Concentration and crystallization, Recovery of sugar from molasses and bagasse, Testing of purity of sugar.

Unit-III, Oil, Fats & Wax; Soaps and Detergents:-

(A) Chemical nature of oil, fats, and wax, distinction between oil & fat. Manufacture of vegetable oil by solvent extraction, Hydrogenation of oil.

(B) Analysis of oils, fats, and waxes:- Saponification of value, Acid value, Ester value, Iodine value, RM value, Elaiden test, Aniline temperature.

(C) Soaps:- ingredients, Manufacture of soaps, Toilet soap, Transparent soap, Shaving soap. **Detergents:-** Cationic, Anionic and zwitterionic detergents. Advantages and disadvantages over soap. Shampoos.

Unit-IV, Liquid Fuels:- Liquid fuels, Petroleum, Occurrence, Origin, Composition, Grading of petroleum, Flash point and its determination, Knocking and anti knocking agents, Octane number, Cetane number. Upgradation by chemical treatment i.e. Reforming,

Polymerization, Catalytic polymerization, Alkylation, Isomerisation, Aromatization. Rocket fuel, Propellants of rocket and guided missiles fuels for jet engine. Fuel oil or boiler oils.

Books and References

1. E. Stocchi: *Industrial Chemistry*, Vol-I, Ellis Horwood Ltd. UK.
2. R. M. Felder, R. W. Rousseau: *Elementary Principles of Chemical Processes*, Wiley Publishers, New Delhi.
3. W. D. Kingery, H. K. Bowen, D. R. Uhlmann: *Introduction to Ceramics*, Wiley Publishers, New Delhi.
4. J. A. Kent: *Riegel's Handbook of Industrial Chemistry*, CBS Publishers, New Delhi.
5. P. C. Jain, M. Jain: *Engineering Chemistry*, Dhanpat Rai & Sons, Delhi.
6. R. Gopalan, D. Venkappayya, S. Nagarajan: *Engineering Chemistry*, Vikas Publications, New Delhi.
7. B. K. Sharma, & H. Kaur, *Industrial Chemistry*, Goel Publishing House, (Meerut) (1996)

ORGANIC CHEMISTRY PRACTICAL

Course Code: CC-305

End Sem-100 marks

Time-6 hour

Credits: 05

Objective: To impart knowledge of basic separation techniques and purification of organic samples using TLC and column chromatography

Outcome: Upon completion of this course students will be able to 1) purify and separate mixture of organic samples 2) Can able to perform synthesis of derivatives of simple functional groups and purify them 3) Can able to identify the functional groups present in organic molecules, 4) can able to isolate organic compounds from a mixture of organic samples

1. Separation, purification and identification of compounds of binary mixtures (solid-solid, solid-liquid, liquid-liquid) using TLC and column chromatography, Chemical tests.
2. **Quantitative Analysis:** (a) Determination of amino group by acetylation method. (b) Determination of hydroxyl group by acetylation method. (c) Estimation of Keto group. (d) Determination of iodine value and saponification value of an oil sample.
3. **Organic Synthesis:** Preparation of adipic acid, p-chlorotoluene, p-nitroaniline, p-bromoaniline, triphenylmethanol. Preparation of PDC (Pyridinium dichromate) & PCC(Pyridinium chloro chromate) reagents and it's application on benzyl alcohol Grignard reagent preparation and reactions on aldehyde.

Books and References:

1. The Systematic Identification of Organic Compounds: R.L. Shriner, C. K. F. Harmann, T.C. Morrill, D.Y. Curtin, R.C. Fuson, John Wiley and Sons.
2. Organic Analytical Chemistry (Theory and Practice): Jagmohan, Narosa Publishing House.
3. A Text Book of Practical Organic Chemistry: Arthur I.Vogel, .E.L.B.S. and Longman.
4. Experiments and Techniques in Organic Chemistry: D. Pasto, C. Johnson.
5. Laboratory Manual of Organic Chemistry: B.B. Dey and M.V.Siaram (Revised)-:T.R.Govindachari, Allied Publishers.
6. Systematic Qualitative Organic Analysis: H. Middleton, Orient Longman.
7. A Hand Book of Organic Analysis (Qualitative and Quantitative): H.T. Clarke, Revised, B. Haynes, Arnold Publishers.

SEMESTER – IV

BIOINORGANIC AND SUPRAMOLECULAR CHEMISTRY

Course Code: DEC-401

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective:

1. To study the role on the role of metals in biological systems and medicine.
2. To introduce the student on structure, stereochemistry and biological functions of different metalloenzymes.
3. To study the structure and function of biomolecules in nitrogen fixation and photosynthesis.
4. To introduce concept molecular recognition, interactions in supramolecular systems and their applications

Outcome:

On completion of the course the student will

1. Understand and acquire knowledge of effect of deficiency and toxicity of metals in both human and plant systems.
2. Describe the structural and functional relationships, mechanisms and importance of metalloenzymes.
3. Understand the fundamentals of supramolecules, supramolecular reactions and catalysis, devises

UNIT -I Biological roles of metal ions, Calcium Biochemistry, Oxygen Transport and storage: Hemoglobin, Myoglobin, Cobalt containing models of oxygen binding, Iron containing models of oxygen carrier, Hemocyanin; Iron storage and transport: Ferritin, Transferrin, Siderophores.

UNIT-II *Enzymes exploiting acid catalysis:*

Carbonic anhydrase, Carboxypeptidases, Superoxide dismutase, Xanthine oxidase.

Redox catalysis: Iron-sulfur proteins: Ferredoxins and Rubredoxins, Non-heme iron,

Cytochromes, Cytochrome P-450 enzymes, Blue Copper Proteins, Coenzyme B12

Nitrogen Fixation, Photosynthesis.

UNIT-III *Metals in medicine:* Ionophores, Importance of Na and K, Metal deficiency and diseases, Toxic effects of metals, Metals used for diagnosis and chemotherapy, Anticancer drugs

UNIT-IV *Supramolecular Chemistry:*

Host guest chemistry, chiral recognition and catalysis, molecular recognition, biomimetic chemistry, crown ethers, cryptates. Cyclodextrine, cyclodextrinbased enzyme models, calixarenes, Ionophores

..

Books and References:

1. Principle of Biochemistry (Lehninger): D. L Nelson and M. M Cox, W. H. Freeman and company, New York.
2. Fundamentals of Biochemistry: D. Voet, J. G. Voet and C. W. Pratt; John wiley and sons.
3. Inorganic Chemistry of Biological process- M. Huges.
4. Bio Inorganic Chemistry – E. Ochiai 24

ORGANOMETALIC CHEMISTRY

Course Code: DEC-402

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: 1. To introduce the students on preparations, structure and bonding aspects of simple organometallic compounds

2. To study the methods of synthesis, properties and reactivity of organometallic compounds with metal-carbon multiple bonds.

3. To introduce on types of common organometallic reactions, reagents and mechanistic study of some homogeneous catalytic reaction systems involving organometallic compounds

Outcome:

On completion of this course, the student will be able to

1. Describe the structure and bonding aspects of different organotransition metal compounds and their correlations with the stability and reactivity of such compounds.

2. Identify the different types of organotransition metal complexes catalyzed reactions and explain mechanistic pathways of different catalytic reactions.

3. Describe the important applications of organometallic homogeneous catalysis in the production of organic chemicals

UNIT-I Organometallic Chemistry:

18-Electron Rule, Ligands in Organometallics, Synthesis, bonding and reactions of Alkyl, Aryl, Alkylidenes, Alkylidynes, Allyl, Dienyl, Arene & Trienyl complexes, Cyclic π systems (3 to 8 membered rings) and Fullerene complexes. Spectral analysis of Organometallic Complexes.

UNIT –II Homogenous and Heterogenous catalysis:

Stoichiometric reactions for Organometallic catalysts: Dissociation & Substitution, Oxidative addition & carbonylation, Oxygen transfer from Peroxo and Oxo Species, Reductive & Hydride elimination, Insertion, Displacement and Isomerization reaction. Hydrogenation, Hydrosilation and Hydrocyanation of unsaturated compounds, Hydroformylation, Wacker (Smidt) Process, Olefin Metathesis, Fischer-Tropsch synthesis, Zeigler-Natta polymerization, Water gas reaction.

UNIT –III (a) Organometallic reagents: Principle, Preparations, properties and application of the following in organic Synthesis with mechanistic details. (i) Group I and II Metals: Li, Mg, Hg, Cd, Zn, (ii) Transition metals: Cu, Pd, Ni, Co (iii) Group I and II metal Organic Compounds: Li, Mg, Hg, Cd, Zn (b) Organo main group chemistry-Boron, Silicon and Tin.

UNIT –IV Magneto Chemistry & EPR:

(a) Induction and susceptibility. Lande interval rule, calculation of g-values, Van Vleck's equation and its use. Effect of spin orbit coupling. Magnetic properties of A.E.T terms with reference to Co(I) and Ni(II) complexes.

- (b) Electron Paramagnetic Resonance Spectroscopy: Hyperfine splitting, Spin orbit coupling, Significance of g-tensor, Zero field splitting, Kramer's degeneracy, Application to inorganic systems

Books and References:

1. Advanced Inorganic Chemistry: F. A. Cotton and G. Wilkinson, John Wiley.
2. Inorganic Chemistry: J. E. Huheey, E. A. Keiter, R. L. Keiter, Pearson Education.
3. Inorganic Electronic Spectroscopy: A. B. P. Lever, Elsevier.
4. Magnetochemistry, R. L. Carlin, Springer Verlag.
5. Comprehensive Coordination Chemistry eds.,-G. Wilkinson, R. D. Gillars and J. A. McCleverty, Pergamon.

Molecular Spectroscopy

Course Code: CC-403

End Sem-80 marks

Time-3 hour

Credits: 05

Mid Sem-20 marks

Time- 1hour

Objective: *To impart knowledge of fundamentals of molecular spectroscopy from theoretical point of view and different instrumental analysis.*

Outcome:

Upon completion of this course students will be able to understand rotational, vibrational and electronic spectroscopy and their applications to different molecules.

UNIT-I Spectroscopy: (a) *Rotational Spectroscopy:* The rigid diatomic rotor, selection rules, intensity of rotational transitions, the role of rotational level degeneracy, the role of nuclear spin in determining allowed rotational energy levels. Classification of polyatomic rotors and the non-rigid rotor.

(b) *Vibrational Spectroscopy:* Review of linear harmonic oscillator, vibrational energies of diatomic molecules, zero point energy, force constant and bond strength; anharmonicity, Morse potential energy diagram, vibration-rotation spectroscopy. Breakdown of Oppenheimer approximation, vibrations of polyatomic molecules, Selection rules, normal modes of vibration, group frequencies, overtones, hot bands, factors affecting the band positions and intensities; metal-ligand vibrations.

UNIT-II (a) *Electronic Spectroscopy:* Electronic transitions, Franck-Condon principle. Vertical transitions. Selection rules, parity, symmetry and spin selection rules. Polarization of transitions. Fluorescence and phosphorescence.(b) Raman Spectroscopy: Classical and quantum theories of Raman effect Pure rotational, vibrational and vibrational-rotational Raman spectra, selection rules, Mutual exclusion principle.

UNIT-III *Electron Spin Resonance (ESR) spectroscopy:* g-factor, electron-nuclear coupling, double resonance in ESR electron-electron coupling. Techniques of ESR spectroscopy **Mössbauer Spectroscopy:** Basic principles, instrumentation, spectral parameter and displays, applications. Mossbauer parameters- isomer shift, quadrupole splitting, Magnetic hyperfine interaction, Doppler effect. Applications of Mossbauer spectroscopy.

UNIT-IV *Instrumental Method of Analysis:* **X-ray diffraction:** Crystals and the diffractions of X-ray, Bragg's law concept of symmetry in crystals, lattice planes and Miller indices, systematic absence of reflections, multiplicities, the x-ray diffraction experiment, powder method, single crystal method, x-ray intensities, structure factor, particle size measurement by x-ray diffraction. **Polarography:** Current-voltage relationship, theory of polarographic waves, instrumentation, qualitative and quantitative applications. **Thermal analysis:** Theory, methodology, instruments and applications of thermo-gravimetric analysis (TGA), and differential scanning calorimetry (DSC).

- Books and References:**
1. Fundamentals of Molecular Spectroscopy: C. N. Banwell, McGraw-Hill.
 2. Basic Principles of Spectroscopy: R. Chang, Mc Graw Hill
 3. Application of spectroscopy of organic compounds, J. R. Dyer, Prentice hall
 4. Spectroscopic methods in organic chemistry, D. H. Williams, I. Fleming, Tata McGraw Hill.
 5. Organic spectroscopy, W. Kemp, ELBS
 6. Spectroscopy of organic compounds, P. S. Kalsi, New Age International.
 7. Mössbauer Spectroscopy and Transition Metal Chemistry, P. Gütlich, R. Link, A. Trautwien, Springer-Verlag (1978).
 8. Mössbauer Spectroscopy, N. N. Greenwood, T. C. Gibb, Chapman and Hall Ltd. (1971).

APPLIED CHEMISTRY PRACTICAL

Course Code: CC-405

End Sem-100 marks

Time-6 hour

Credits: 05

Objective:

1. To acquire a minimum practical skill to determine the molecular weight of polymers and their characterization by other methods
2. To learn the conventional techniques of analysis of different water parameters and specific components in different samples by classical/instrumental methods.
3. The laboratory course is designed based on UV Visible spectrophotometer. Experiments such as determination of indicator constant, stoichiometry of a metal complex by Job's method are included

Outcome:

After the completion of course students will be able

1. To perform experiment on polymers and their basic characterizations.
2. To perform the analysis of different water parameters using classical and instrumental methods.
3. To understand the principles behind the experiment performed in the laboratory
4. To understand Beer Lambert's law in a better manner.
 - i. Determination of viscosity average molecular weight of polystyrene (PS), polyvinyl alcohol (PVA), polyethyleneglycol (PEG), Polyacrylamide (PA).
 - ii. Determination of (i) Dissolved Oxygen (DO), (ii) Chemical Oxygen Demand (COD) and (iii) Biochemical Oxygen Demand (BOD) in water samples.
 - iii. Analysis of a ground water sample for sulphate by titrimetry (EDTA) and turbidimetry.
 - iv. Determination of fluoride in drinking water/ground water by spectrophotometry (alizarin red lake method).
 - v. phosphate by molybdenum blue method Miscellaneous
 - vi. Spectrophotometric estimation of phosphate in cola drinks
 - vii. Analysis of fat in a butter sample
 - viii. Spectrophotometric estimation of hexavalent chromium in water samples.
 - ix. Determination of ascorbic acid in vitamin C tablets.
 - x. Verification of Beer's Lambert's law
 - xi. Determination of partial molar volume of solute (e.g., KCL) and solvent in a binary mixture.
 - xii. Determination of the temperature dependence of the solubility of a compound in two solvents having similar intermolecular interactions (benzoic acid in water and in DMSO-water mixture) and calculate the partial molar heat of solution.
 - xiii. Determination of pKa of an indicator (e.g., methyl red) in (a) aqueous and (b) micellar media.
 - xiv. Determination of stoichiometry and stability constant of inorganic (e.g. ferric – salicylic acid) and organic (e.g. amine-iodine) complexes.
 - xv. Estimation of Pb²⁺ and Cd²⁺ / Zn²⁺ and Ni²⁺ ions in a mixture of Pb²⁺ and Cd²⁺ / Zn²⁺ and Ni²⁺ by polarography.
 - xvi. Determination of dissolved oxygen in aqueous solution of organic solvents.

- xvii. Determination of rate constant for hydrolysis / inversion of sugar using a polarimeter
- xviii. Determination of stoichiometry and stability constant of inorganic (e.g. ferric-salicylic acid) and organic (amine-iodine) complex. .

Books and References:

1. Vogel's Text Book of Quantitative Chemical Analysis By J.Mendham, R.C.Denney, J.D.Barnes, M.J.K. Thomas, Pearson Education Publishers, 6th Edition.
2. Hand book of Environmental analysis by Pradyot Patnaik, Lewis Publishers, USA (1997).
3. Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WPCF, Washington, DC, USA, 17th Edition.

DISSERTATION

Course Code: DC-405

End Sem-100 marks

Time-3 hour

Credits: 05

The dissertation shall comprise of conducting a small project under faculty members of the department. The title and execution of the project work shall be decided in consultation with the faculty members of the dept by a committee constituting HOD and other senior faculty members. The committee may also extend the provision of co-opting the external guide as per the provision provided by the M.P.C. Autonomous College, Baripada. In general, the student is expected to do literature survey in the assigned topic, and to do some kind of experimental investigation, and result analysis. However, final decision regarding the execution of project work rests with the supervisor/co-supervisor and the committee on mutual discussion to the best benefit of the student for academic career. The guideline provided by UGC shall be also taken into account in this regard.

COURSES OF STUDIES
For
MASTER OF SCIENCE EXAMINATION
(With Effect from the Session 2023-24 and onwards)

MICROBIOLOGY
(Under Choice Based Credit System)



Maharaja Purna Chandra (Autonomous) College,
Takhatpur, Baripada- 757003, Mayurbhanj



Affiliated To

MAHARAJA SRIRAM CHANDRA BHANJA DEO UNIVERSITY
Sriram Chandra Vihar, Takatpur, Baripada-757003

Shree
6/10/23

Chaitanya Sankar
08/10/23

Hridi
08/10/23

RK Nayak
6/10/23
Sankar
06-10-23

Pradeep
06/10/23

M.Sc. (MICROBIOLOGY)

(Choice Based Credit System)

- I. The course is of two years duration comprising of four semesters of theory and laboratory works.
- II. There is one open elective (OEC-MB 305) in semester-III. This paper is open for other departments. Students of this department in semester –III will choose one open elective from other department.
- III. Each student has to carry out project work during Semester-IV and submit a dissertation before the commencement of Semester-IV theory examination.
- IV. The student can opt one elective course comprising of two papers in the 2nd year of PG programme.
- V. The theory examination shall be held for 80 marks (3 hours) and one Mid-Semester/ Internal Assessment Examinations (IAE) of 20 marks (1 hour). The questions shall be of unit pattern, having equal marks, with two alternatives from each unit.
- VI. For IAE, question shall be asked at least from any two units of a paper covered and will be of one hour duration. The durations of the practical examination shall be of 6 hours.
- VII. In order to pass a semester examination a candidate must have to secure a minimum of 40% marks in both practical & theory papers in each semester.
- VIII. If candidate passes all the four semester examinations he/she will be declared to have passed the M.Sc. (Semester) examinations in Microbiology, provided further that in no case a candidate shall be allowed to appear any Semester Examination after twice the duration of course period.
- IX. In order to be eligible to appear at the University examination, a student has to secure at least 75% of attendance in both Theory and Practical classes.

Programme outcome:

- The students will acquire basic knowledge on Microbial diversity, conservation and utilization of resources and role of microbes in the protection of environment.
- They will be able to contribute towards present day sustainability for climate change, global warming, restoration and reclamation of waste land for crop production and inventorisation of microbes for new chemicals & drugs.
- They will be equipped with adequate technical and analytical skill to pursue their further studies and to develop continuous learning throughout their professional career.
- They will be able to compete national and state level tests like UGC-CSIR NET, ASRB- NET, UPSC, OPSC and SSB etc.
- They will acquire motivational forces for higher study and research related to applied field of microbiology.

Programme Specific Outcome:

- The student will understand both the basic and applied branches of Microbiology namely Diversity, Microbial Physiology & Biochemistry, Agriculture Microbiology, Bioinstrumentation, Molecular biology & Genetic Engineering, Immunology, Clinical Microbiology, Environmental Microbiology and Industrial & Food Microbiology.
- Systematic study of selected Species will explore the knowledge on the taxa including genetic diversity and molecular phylogeny which will be helpful for conservation & sustainable utilization of those Species.
- They will develop creative thinking and problem solving capabilities through mentor system.
- They will be able to involve in the environment programmes, launched by UNEP through inspirational and motivational ethics.
- They will understand the subject in detail through the elective courses such as clinical Microbiology, Advance Agricultural Microbiology and Food Microbiology.
- They will get motivation towards research in Microbiology through the dissertation work in both field and laboratory based exposure.

(Effective from the academic session 2023-24 & onwards)

Semester –I

Code	Course Title	Credit	Marks
MB 101	Fundamentals of Microbiology	5	100 (80+20)
MB 102	Microbial Diversity	5	100 (80+20)
MB 103	Microbial Physiology and Biochemistry	5	100 (80+20)
MB 104	Agricultural Microbiology	5	100 (80+20)
MB 105	Practical	5	100
	Total	25	500

Semester—II

Code	Course Title	Credit	Marks
MB 201	Bioinstrumentation	5	100 (80+20)
MB 202	Molecular Biology and Genetic Engineering	5	100 (80+20)
MB 203	Immunology	5	100 (80+20)
MB 204	Clinical Microbiology	5	100 (80+20)
MB 205	Practical	5	100
	Total	25	500

Semester—III

Code	Course Title	Credit	Marks
MB 301	Environmental Microbiology	5	100 (80+20)
MB 302	Industrial and Food Microbiology	5	100 (80+20)
MB 303	Research Methodology	5	100 (80+20)
MB 304	Practical	5	100
OEC-MB 305	Open Elective Course (OEC)	5	100
	Total	25	500

Semester—IV

Code	Course Title	Credit	Marks
Discipline Specific Elective – I			
MB-EC 401-A	Clinical Microbiology	5	100 (80+20)
MB-EC 401-B	Pharmaceutical Microbiology	5	100 (80+20)
Discipline Specific Elective – II			
MB-EC 402-A	Advances in Agricultural Microbiology	5	100 (80+20)
MB-EC 402-B	Plant Pathology	5	100 (80+20)
Discipline Specific Elective – III			
MB-EC 403-A	Industrial Microbiology & Applications	5	100 (80+20)
MB-EC 403-B	Food Microbiology	5	100 (80+20)
MB 404	Practical	5	100
MB 405	Dissertation	10	200
	Total	25	500
	Grand Total of Four Semesters	100	2000

Rajeev
6/10/23

Chitika Sankar
06/10/23

Hridika
06/10/23

RKNayn
6/10/23
Samita
06-10-23

[Signature]
06/10/23

SEMESTER-I

MB-101 Fundamentals of Microbiology

Full Mark: 100

Course objective: To give an introduction about the microbial world, their distribution, morphology, growth and about the role of microorganism in various fields of life sciences and Industry. Makes the student aware of the role of microbes in the daily life as well as in the various fields of science and how it can be controlled is also deal with.

UNIT-I (20)

- Landmark Discoveries, The Germ theory of disease, Controversy over Spontaneous generation, Hierarchical organization & position of microbes in the living world, Haeckel's Three kingdom, Whittaker's Five kingdom and Carl Woese's three domain classification system.
- Rules of Nomenclature, Polyphasic Taxonomy, Important criteria used in the classification, Modern trends in Nomenclature, Numerical taxonomy, Scope of Microbiology.

UNIT-II (20)

- Basic techniques and functional mechanism of equipment used in microbial culture and study: Laminar Air Flow, Autoclave, Hot air oven, pH meter, Quebec's colony counter, Shaker-cum-Incubator, Nephelometer.
- Microscopy techniques: Principles of Microscope, Resolving power of different types of Light microscopy: Bright field, dark field, phase contrast, Fluorescent microscopy.
- Sterilization: Physical and Chemical methods.

UNIT-III (20)

- Ultrastructure of Prokaryotic & Eukaryotic cell, Structure of Peptidoglycans & pseudomurein of Prokaryotic Cell wall, Plasma membrane: Composition and dynamics. Transport across cell membrane. Cell junction, cell adhesion and extra-cellular matrix of Eukaryotic cell,
- Nucleoid and Nucleus: Structure and function of nuclear envelope, nuclear pore complex, nucleolus & Chromatin organization and its packaging, nuclear transport, Structures for attachment and motility, Bacterial endospore.

UNIT-IV (20)

- Microbial Nutritional and Growth: Function of different nutrients and their stress on microbes, Nutritional Classification of microorganisms. Preparation of culture media, Different types of media used for microbial culture, Methods of *in vitro* culture of microbes, various methods for the selection and isolation of microbes, Maintenance and preservation of microbes.
- Microbial Staining techniques for different bacteria and fungi. Various cultural characteristics of microbes. Bacterial Growth curve, generation time, Factors affecting growth (Solute concentration, temperature, pH, O₂ concentration, Pressure, radiation), Measurement of growth: Direct and indirect methods, Growth in batch culture & continuous culture. Design of chemostat & turbidostat.

SEMESTER-I

MB-102 Microbial Diversity

Full Mark: 100

Course objective: To give an introduction about the microbial diversity, their classification, morphology, structural components, reproduction and ecological importance imparts knowledge regarding microbial diversity to the students of Microbiology.

UNIT-I (20)

- Bacteriology: Features of Bergey's manual of Systematic Bacteriology, Characteristics of various organisms under Archaea: Phylum Crenarchaeota, Thaumarchaeota, Euryarchaeota, Bacteria: Deinococci, Mollicutes and Nonproteobacterial Gram Negatives, Proteobacteria, Low G+C Gram Positives, High G +C Gram Positives.

UNIT-II (20)

- Mycology: Distribution, Morphology, Nutrition & reproduction of Fungi, hetrothallism and heterokaryosis. Classification & life-cycles (*Synchytrium*, *Mucor*, *Rhizopus*, *Saccharomyces*, *Neurospora*, *Agaricus*, *Volvariella*, *Aspergillus*) Economic and ecological significance of fungi.
- Phycology: Distribution, Thallus organization, pigment system, Nutrition & reproduction of Algae & BGA. General characteristics of different Divisions, Economic and ecological significance of Algae.

UNIT-III (20)

- Lichenology: Distribution, Structure and classification, Nutrition & reproduction of Lichen, Economic and ecological significance of Lichen, Harmful effects of Lichen.
- Protozoology: General characters, Nutrition, encystment & excystment, classification and reproduction of protozoa.

UNIT-IV (20)

- Virology: Structure and composition of viruses, Classification & Life-cycle of viruses, Replication mechanism of Viruses under the classification system, Virulent and temperate viruses, cultivation and enumeration of viruses, Regulation of phases and viruses. Infectious molecules: virioids, satellites, prions; Interferons.

Course outcome: At the end of this course the students will get knowledge about the diversity of microorganisms which is an important aspect of Microbiology.

SEMESTER-I

MB-103 Microbial Physiology and Biochemistry

Full Mark: 100

Course objective: To give an introduction about the basic biochemistry related to the biological molecules, their diversity and biosynthesis. The aim is to develop a thorough knowledge among the students about the various biochemical reactions and metabolic pathways. It explains molecular basis of mutations and DNA repair.

UNIT-I (20)

- Biomolecules: General Properties, Structure, classification and functions of Carbohydrates and lipids; General structure, classification, physical & chemical properties of Amino acids, Peptide synthesis; primary, secondary, tertiary & quaternary structure of proteins, Ramachandran plot.
- Nucleic acid: Structure and forms of DNA, Cot curve, types of RNA, Ribozymes.

UNIT-II (20)

- Carbohydrate metabolism: Bacterial photosynthesis (Bacterial Photosynthetic pigments, Mechanism of Photosynthesis- Light reaction and dark reaction), Glycolysis, Entner-doudoroff pathway, pentose- phosphate pathway, TCA cycle, ETC, Oxidative phosphorylation, glyoxalate pathway
- Lipid metabolism: Biosynthesis of fatty acids, phospholipids and LPS, β -oxidation.

UNIT-III (20)

- Protein metabolism: Biosynthesis of amino acids, anaplerotic pathway, catabolism of proteins and amino acids.
- Enzymes- Classification, multistep reaction and rate limiting steps, enzyme inhibition, mechanism of action. Kinetics of enzymes; allosterism, kinetic analysis of allosteric enzymes, principles of allosteric enzyme regulation.

UNIT-IV (20)

- DNA metabolism: Mechanisms of DNA replication in *E. coli* (bi- directional), Enzymes involved in replication; Mutations, Types of mutation, Types of mutagens, detection and isolation of mutants, DNA damage and repair mechanisms.
- RNA metabolism: Transcription in prokaryotes and eukaryotes, Enzymes involved, RNA processing, Genetic code, Wobble concept, Translation in prokaryotes and eukaryotes, post- translational modification, Protein folding.

Course objective: The student will get an idea about the principles behind molecular biology which makes students to understand the basic molecular tools and its application in basic research and applied research in various fields of life sciences.

SEMESTER-I

MB-104 Agricultural Microbiology

Full Mark: 100

Course objective: To give a detailed and comprehensive knowledge on the various aspects of plant-microbial associations, plant diseases and genetics of plant disease in detail. The course gives account of the microbial degradation of various organic compounds.

UNIT-I (20)

- The soil as habitat for microorganisms: General description of soil, soil humus formation and structure, differences among soils and factors of ecological significance. Soil Microorganisms: Distribution, abundance, methods of estimation of biomass, environmental factors, activity and functions of soil bacteria, fungi, algae, protozoa, blue green algae and soil fertility.
- Microbial diversity in soil and its significance; Microbes and plant interactions - Rhizosphere, Phyllosphere, Mycorrhizae.

UNIT-II (20)

- Organic matter decomposition both native and added organic matter and factors governing the decomposition. Degradation of carbonaceous materials in soil- cellulose, hemicellulose and lignin decomposition, factors governing the decomposition and biochemistry of decomposition. Mineralization of nitrogenous organic matter- microbes involved and factors influencing the processes.

UNIT-III (20)

- Nitrification-Microbes involved, factors influencing nitrification, nitrifying bacteria and biochemical mechanisms. Denitrification- microbes involved, factors influencing and the mechanism of denitrification and nitrate pollution.
- Nitrogen fixation- Asymbiotic and symbiotic nitrogen fixation, microorganisms involved, Physiology, biochemistry and genetics of nitrogen fixation, ecological and economic importance of nitrogen fixation; Cyanobacterial Nitrogen fixation.

UNIT-IV (20)

- General symptoms of plant diseases, pathogenic and non-pathogenic diseases, Principles of plant diseases, Biochemical aspects of disease development, Host-parasitic relationship, Biochemical and genetic aspect of disease resistance, Defence mechanism in plants.
- Diseases caused by fungi, bacteria, and virus: mildews, smuts, blight, rust, mosaic disease, leaf curl, blast of rice. Control of plant diseases.

Course outcome: On completion of the course, students shall be able to understand the role of microbes in agriculture and identify several plant diseases based on external and microscopic observations.

SEMISTER-I

MB-105

PRACTICALS

1. Microbiology laboratory- Basic rules and requirements
2. Methods of sterilization (moist heat, dry heat, filtration).
3. Demonstration of pH measurement of solution and culture media.
4. Preparation of culture media (broth, solid agar, agar slants and plates).
5. Demonstration of techniques for pure Pour plate, Spread plate, Serial Dilution) culture of microorganism. (Streak plate,
6. Method of culture preservation and maintenance (Storage in soil, mineral oil, stabbing and sub-culture)
7. Counting of microbial population (Total cell count, Viable cell count using haemocytometer.
8. Isolation and enumeration of microorganism from water, soil and air (Algae, fungi, bacteria, protozoa, cyanobacteria).
9. Section cuttings showing important plant diseases
10. Staining methods: Simple staining, Negative staining, Gram staining acid-fast staining, spore staining.
11. Standardization using stage and ocular micrometer.
12. Phenol coefficient.

SEMESTER-II

MB-201 Bioinstrumentation

Full Mark: 100

Course objective: To get introduced to the fields of various instruments used in microbiology including the basic principle - application and working, molecular tools and techniques essential for the understanding of life sciences and microbiology.

UNIT-I (20)

- Spectroscopy: Electromagnetic spectrum, Beer Lambert's Law: Absorbance, Transmittance and Extinction coefficient; Principle and applications of UV- Visible Spectroscopy, spectrofluorimetry and Atomic absorption spectroscopy (AAS).
- Molecular structure determination using NMR and X- Ray diffraction.

UNIT-II (20)

- Centrifugation: Basic principles of sedimentation, types of centrifuge and their applications, design of rotors, Separation techniques: differential, density gradient, isopycnic centrifugation.
- Chromatography: Principle, methodology and applications of Paper chromatography, thin layer chromatography, affinity chromatography, adsorption chromatography, ion-exchange chromatography, gel permeation chromatography, gas- liquid chromatography (GLC), HPLC.

UNIT-III (20)

- Gel Electrophoresis: Principle, methodology and application of Agarose, SDS-PAGE, Native and 2-D gel Electrophoresis, FIGE. Blotting techniques - Southern blotting, Northern blotting and Western blotting.
- Molecular techniques: Principle and applications of PCR, RT-PCR and multiplex PCR, design of primers, identification of PCR products; DNA Sequencing Technology: Maxam- Gilbert method, Sanger's method and Whole genome shotgun sequencing, Human Genome Project (HGP); Chromosome mapping: Physical mapping, Restriction mapping, Hybridisation techniques: FISH, GISH; Molecular markers: RAPD, RFLP, AFLP, SNP; DNA Micro-array.

UNIT-IV (20)

- Advances in microscopy techniques: Principle and applications of Confocal microscopy, Electron Microscopy: SEM, TEM, Scanning Probe Microscopy; Types and role of Radioisotopes in biological sciences, Tracer techniques: PET, SPECT.

Course outcome: On completion of the course, the students will develop the capability to carry out experiments involving several instrumentation techniques. The student will be aware with a basic knowledge of modern molecular biology and genomics.

SEMESTER-II

MB-202 Molecular Biology and Genetic Engineering Full Mark: 100

Course Objective: The course is designed to train the students in various aspects of gene regulation and expression.

UNIT-I (20)

- Recombination: Types and Mechanism of recombination, Transformation- Discovery, detection, molecular mechanisms of transformation, transformation methods. Bacterial Conjugation - Sex factor in bacteria, F, F' and HFR transfer mechanism of transfer.
- Bacterial Transduction- Phenomenon of Transduction, Methods of transduction: Generalized and Specialized transductions, Co- transduction and Abortive transduction, Sexduction.

UNIT-II (20)

- Gene regulation and expression in prokaryotic systems: Lac, arabinose and tryptophan operons, Repressors and activators in lambda, Sigma switch in *B. subtilis* Gene regulation and expression in eukaryotic systems: repetitive DNA, gene rearrangement, promoters, enhancer elements, gene amplification.
- Signal transduction, Concept of secondary messengers: cAMP, cGMP, protein kinases, G-proteins, Transposable elements.

UNIT-III (20)

- Basic techniques in gene analysis: Restriction enzymes- Types of restriction-modification system & its mechanisms, other modification systems; Cloning vectors- Plasmids, phagemids, cosmids and phages, other viral vectors (M13 and retroviruses);
- Gene transfer methods: Physical and Chemical methods of gene transfer, Agrobacterium mediated gene transfer. Expression vectors, promoter probe vectors, vectors used for construction of library- artificial chromosomes; BAC vectors, YAC vectors. Cloning strategies, cloning and selection of individual genes; Gene libraries- cDNA and genomic libraries.

UNIT-IV (20)

- Gene Identification: Screening by nucleic acid hybridization, immunoscreening, screening by function, Other interaction screens: one hybrid, two-hybrid screening & phage display.
- Analysis of Gene Function: Relating Genes and functions, genetic Maps, relating Genetic and physical maps, Transposon Mutagenesis, Allelic replacement and Gene knock-outs, Complementation, Studying Gene function through protein interaction. Manipulating Gene Expression: Factors affecting expression of Cloned Genes, Expression of Cloned Genes in Bacteria, and Expression in Eukaryotic Host Cells, Adding tags and signals. In-vitro Mutagenesis. Site directed mutagenesis, Synthetic genes.

SEMESTER-II

MB-203 Immunology

Full Mark: 100

Course objective: To get introduced to the principles of immunology, molecular and diagnostic techniques of immunology, immune- techniques and its application, the importance of immunology and its theoretical aspects and on the principles of immunology and immunotechnology. Antigen-antibody reactions involved in diseases and vaccine development.

UNIT-I (20)

- Introduction to the Immune system, Haematopoiesis, Defense mechanism (First, Second and Third line), Organisation and structure of lymphoid organs of the immune system, primary and secondary lymphoid organs. Innate and acquired immunity.
- Cells and molecules involved in innate and acquired immunity: B and T lymphocytes, Macrophages, Neutrophils, Mast cell, NK cells, dendritic cells, Cytokines; Effectors Responses of Cell- mediated and Humoral Immunity. Antigen, Antigenicity, Haptens, Superantigens,

UNIT-II (20)

- Structure and functions of Antibody; Structure and function of immunoglobulin classes, Immunoglobulin genes- Organisation and expression, Maturation, activation and differentiation of B and T cells, Structure organization of BCR and TCR, MHC-Complex; Organisation and structure of MHC class-I and MHC class-II, Antigen processing and presentation.
- Complement System: Complement system as a part of innate & adaptive immune system, complement activation by classical, alternative and lectin pathway, complement mediated lysis and other effects of complement activation, Monoclonal antibody

UNIT-III (20)

- Antigen- Antibody interaction: Antibody affinity and avidity, forces stabilizing antigen-antibody interaction, Agglutination Reaction, Precipitation reaction, Immunodiffusion, Immunelectrophoresis, ELISA, RIA, Immunofluorescence, Western blotting. Elispot assay.

UNIT-IV (20)

- Hypersensitivity and Mechanisms of type 1, 2, 3 & 4 hypersensitive reactions; Autoimmune diseases. Immune responses against tumors/Cancer.
- Immune responses against Transplantation, Graft Rejection, prevention and treatment of Graft Rejection, Immunosuppressive therapy during Transplantation. Immunology of tolerance. Immunodeficiency diseases, vaccines.

Course outcomes: Students will get the deep foundation in the immunological processes after the end of the course.

SEMESTER-II

MB-204 Clinical Microbiology

Full Mark: 100

Course Objective: The course will impart knowledge regarding various diseases of humans, chemotherapeutics used to combat diseases and molecular basis of cancer.

UNIT-I (20)

- Principles of Medical Microbiology: Classification of medically important microorganisms, Normal flora of human body - Origin of normal flora, role of the resident flora, effect of antimicrobial agents on normal flora, characteristics of normal flora; Distribution and occurrence of normal flora (Skin, conjunctiva, nose, nasopharynx, sinuses, mouth, upper respiratory tract, intestinal tract and urogenital tract), Bacteria in the blood and tissues.
- Factors influencing normal flora, Properties of pathogenic microorganisms, Factors influencing pathogenicity. Type, sources and different modes/means of infections.

UNIT-II (20)

- Bacterial pathogens: Detailed study of morphology, cultural characteristics, epidemiology, prevention and treatment caused by following bacterial pathogens: B-Haemolytic *streptococci*, *pneumococci*, *Corynebacterium diphtheriae*, *Mycobacterium tuberculosis*, *Mycobacterium leprae*, *Neisseria meningitides*, *Haemophilus influenzae*, *Pseudomonas*. Sexually transmitted diseases caused by bacteria: *Treponema pallidum*, *Neisseria gonorrhoea*. Bacterial diseases: Anthrax, Tetanus, Syphilis, Cholera, Botulism, Salmonellosis, Shigellosis, Staphylococcal food poisoning, Diarrhea, Typhoid fever, Chlamydial pneumonia.
- Fungal diseases: Superficial, cutaneous, sub-cutaneous and systemic Mycosis.

UNIT-III (20)

- Viral diseases: Chickenpox, Influenza, Measles, Viral Pneumonia, Rubella Mumps, Smallpox, AIDS, viral STD, Common Cold, Leukemia, Rabies, Viral Hepatitis, Polio. Protozoan Disease: Amebiasis, Giardiasis, Malaria, Toxoplasmosis, Trichomoniasis.
- Cell-cycle and its regulation: Tumor Cells and the Onset of Cancer, Loss of Growth-Inhibiting and Cell-Cycle Controls, The Role of Carcinogens.

UNIT-IV (20)

- Antimicrobial chemotherapy: General properties of antimicrobial agents, The Spectrum of Activity, Modes of Action: Inhibitors of Cell wall synthesis, Disrupters of Cell membranes, Inhibitors of Protein Synthesis, Inhibitors of Nucleic Acid synthesis, Kinds of Side Effects; Antibacterial, Antifungal, Antiviral, Antiprotozoan and Antimetabolites
- The Resistance of Microorganisms, Determining microbial sensitivities to antimicrobial agents: The Disk Diffusion Method, The Dilution method, Automated method.

SEMESTER-II

MB-205

PRACTICALS

1. Identification and characterization of bacteria (Morphological and Biochemical tests).
2. Microbial growth measurement of fungal growth by linear determination.
3. Measurement of fungal growth from increase of biomass. Determination of bacterial growth by turbidometry.
4. Pigment estimation of algae/cyanobacteria
5. ELISA
6. Gel Electrophoresis.
7. Submission of Study Tour Report.
8. Bacterial DNA extraction.
9. Plasmid DNA extraction.
10. Immune electrophoresis.
11. PCR,
12. RAPD, RFLP
13. Restriction mapping
14. Examination for blood-group and Rh factors.

SEMESTER-III

MB-301 Environmental Microbiology

Full Mark: 100

Course Objective: The course will provide necessary information related to microorganisms in various environments and their role in the ecosystems. It will provide necessary information related to microorganisms in leaching and bio-mining and several biotechnological and environmental management approaches.

UNIT I (20)

- Microbial diversity in extreme environments: Occurrence, diversity, adaptations and potential applications of oligotrophs, thermophiles, psychrophiles, barophiles, organic solvent and radiation tolerants, metallophiles, acidophiles, alkaliphiles and halophiles.
- Microbial ecology: Microbes in water (fresh water & marine water), air and soil environment, role of microbes in bio-geochemical cycles of water, carbon, nitrogen, phosphorous, sulphur and other inorganic elements.

UNIT II (20)

- Interaction between microbial populations: commensalism, mutualism, cooperation, antagonism, competition, parasitism, and predation. Interaction between micro and macro- organisms, growth of microbes in plants and animals.
- Microbial diversity in terrestrial (agricultural and desert soils), aquatic (fresh water and marine), atmospheric (stratosphere) animal (cattle, termites, pests such as cockroach and nematodes, and human being) Methods of controlling microorganisms in air, components of soil, soil pathogens, fresh water environment, marine environments, hydrothermal vents and cold seeps, Internal Air Quality assessment.

UNIT III (20)

- Bioremediation- types and microbes involved, Bioremediation of contaminated soil and waste lands, Genetically engineered microbes in biodegradation, Bioleaching and its significance- copper, uranium, other metals.
- Microbial degradation of herbicides, pesticides, fungicides, insecticides, hydrocarbons and other compounds, persistence of these compounds in the environment.

UNIT IV (20)

- Water pollution: Water-borne pathogenic microorganisms and their transmission. Sanitary quality of water. Aerobic sewage treatment: activated sludge treatment, primary, secondary (aerobic processes- trickling filters, Roughing filter, Rotating biological contractors, packed bed reactors, anaerobic processes) and tertiary treatments. Sewage treatment systems : Oxidation ponds, Septic tank.
- Sludge disposal & Solid waste management.

Course outcome: On completion of the course, Students will get an idea about the various groups of microorganisms, their role in various environments and their interactions with their surroundings.

SEMESTER-III

MB-302 Industrial and Food Microbiology

Full Mark: 100

Course Objective: The course will provide knowledge regarding fermentation technologies, and use of microbes for industrial exploitations. Student will learn about the source of Microbes in Food, food spoilage and preservation techniques.

UNIT I (20)

- Industrial microbiology: Definition, scope, history, microorganisms, properties and industrial products. Screening for microbes of industrial importance. Primary screening, screening of industrially important compounds (amylase, organic acid, antibiotics, amino acids and vitamin).

UNIT II (20)

- Preparation of fermentation media and sterilization, Raw materials, inoculum preparation, Types of fermentations processes Solid state, surface and submerged fermentations. Fermentation techniques: Batch, fed batch and continuous fermentations. Design of bioreactor, types of bioreactor. Downstream processing.

UNIT III (20)

- Strain development strategies. Environmental factors and genetic factors for improvement. Immobilization methods: Absorption, covalent linkage, entrapment and cross linkage, types of carriers, advantage and disadvantages.
- Fermented Foods: Types of fermented food its benefits, microflora in fermented foods, nutritional value. Lactic acid, mixed acid, propionic acid, butandiol and acetone-butanol, types of fermentation. Industrial production of vitamin B₁₂, B₂, Glutamic Acid, Penicillin, SCP.

UNIT IV (20)

- Food Microbiology: Intrinsic and Extrinsic parameters of foods that affect microbial growth. Production of fermented foods: cheese, butter, yogurt, bread, idli. Production of Distilled Beverages: wine, beer.
- Food spoilage and factors affecting food spoilage: Spoilage of meat, poultry, fish, egg, flour, fruits, vegetables and canned foods Food preservation methods: Food preservation techniques: High & Low temperature, radiation drying, chemicals-antibiotics & antifungal agents.

Course outcome: On completion of the course, Students will get an overall idea regarding design of bioreactors, use of culture systems for several industrial product formations as well as downstream processing & the source of Microbes in Food, food spoilage and preservation techniques.

SEMESTER-III

MB-303 Research Methodology

Full Mark: 100

UNIT-I **(20)**

- Meaning of research, Research objectives, Types of research, Research methods & Research ethics.

- Computer application, DOS command, MS Office, MS Excel, MS PowerPoint. Accessing Internet Services: Browsing, Downloading, e- correspondence, E-mail.

UNIT-II **(20)**

- Basics of Biostatistics: Types and collection of data, presentation of data, Measures of central tendency: Mean, Median and Mode, Frequency distribution, Measures of Dispersion: Range, Quartile deviation, mean deviation, Standard Deviation, Variance and Coefficient of variation.

- Test for significance: Chi-square test. Student's t-test, f-test, Analysis of Variance (ANOVA), Correlation and Regression analysis.

UNIT-III **(20)**

- Bioinformatics: Definition, history, scope & applications of Bioinformatics, Biological databases: Primary & secondary, Bioinformatics Databases and analysis services: NCBI- GenBank, EMBL, PDB, KEGG, DBJ, Microbial genomic databases (MBGD), Similarity searching (FASTA & BLAST), Similarity based database searching: Global Vs Local Alignment, Multiple sequence alignment, Methods of illustrating evolutionary relationship: Features of a Phylogenetic tree, cladogram.

UNIT-IV **(20)**

- Basics of research practice: Writing of Research papers, abstracts and Review papers, Dissertations and thesis writing, developing research proposal, delivering of effective oral presentation, preparation and presentation of posters.

- Biological resources management: Threats; Management strategies, Bio-prospecting; IPR: Forms of IPR, Convention of Biodiversity (CBD), Forms of protection: Copyright, Trademark, Patent- Process of Patenting, Indian and international agencies involved in IPR & Patenting; Contemporary practices in resource management: EIA, GIS, Participatory Resource Appraisal.

SEMESTER-III

MB-304

(PRACTICALS)

1. Estimation of total sugar of the supplied material.
2. Estimation of reducing sugar of the supplied material.
3. Estimation of protein of the supplied material.
4. Chromatography (TLC, Paper).
5. Total solid and total dissolved solids of the given water sample.
6. Hardness of the given water sample.
7. Estimation of dissolved CO₂ concentration.
8. Isolation of micro flora from human skin/ throat.
9. Food microbiology.
10. Spoilage of meat.
11. Spoilage of milk.
12. Spoilage of poultry and fish.

SEMESTER-III

OPEN ELECTIVE COURSE

OEC-MB-305

Full Mark: 100

Course objective: To educate the students on Microbiology, plant pathology, Animal disease, Microbes in Environment and their role.

UNIT-I (20)

- History and Scope of Microbiology: Discovery and history of microbes, Theory of spontaneous generation, Koch's Postulates, General accounts: Bacteria, Fungi, Algae, Protozoa, Virus.

UNIT-II (20)

- Common Plant Diseases: Symptoms, Causal organism and Prevention of the Bacterial diseases: Blight disease, Wilt of potato, Citrus canker; Fungal Diseases: Smut of sugarcane, Rust of wheat, Blast of rice, Early blight of potato, Wilt of tomato. Viral Diseases: Tobacco mosaic virus, Yellow leaf curl of tomato, Yellow vein mosaic of Lady's Finger.
- Common Animal Diseases: Symptoms, Causal organism and Prevention of the Bacterial diseases: Diarrhea, Tuberculosis, Leprosy, Cholera, Pneumonia, Typhoid; Viral diseases: Chicken pox, Measles, Polio, HIV, Hepatitis, Herpes; Fungal Diseases: Cutaneous Mycosis Protozoan diseases: Malaria, Amoebiasis.

UNIT-III (20)

- Microbes in Ecosystem: Microbes involved in the cycling of Carbon, Phosphorous, Sulphur; Nitrogen fixation; Decomposition; Water pollution; Soil formation; Microbial Indicator; Plant growth promoting microbes; Symbiosis.

UNIT-IV (20)

- Application of Microbes: Industrial application of microbes, vaccines, antibiotics, vitamins, organic acids, PHB, extraction of ores; Bioremediation; Microbes in Food Microbiology: Spoilage of food, Preservation of food, Beverage production, SCP.

Course outcome: Students will learn on Microbiology, plant pathology, Animal disease, Microbes in Environment and their role.

SEMESTER-IV

ELECTIVE-A

MB-EC-401 Clinical Microbiology

Full Mark: 100

Course Objective: The course will impart knowledge regarding various diseases of humans, chemotherapeutic used to combat diseases, and immune system.

UNIT-I (20)

- Host pathogen interaction: The role of the microbial flora, Pathogenesis of infection: colonization and invasion. Role of microbiology laboratory in the diagnosis and control of infections. Management, safety and quality control in medical microbiology laboratory.

UNIT-II (20)

- Specimen collection and processing: Basic principles of specimen collection, preparation of container and swabs for collection of specimens for microbiological examination, preservation storage and transport of specimens, documentation of specimen, Microbiological examination of clinical specimens: Microscopic examination, use of colonial morphology for presumptive identification, biochemical identification of microorganisms. Immunodiagnosis of infectious diseases: Principles of immunological assays, use of serological testing in specific diseases (WIDAL, VDRL, TPHA, ASO, TORCH- profile, HBS ELISA, HIV- ELISA). Application of molecular diagnostics: Nucleic acid hybridization, nucleic acid amplification.

UNIT-III (20)

- Clinical syndromes and their laboratory diagnosis: Upper and Lower respiratory tract infections (Pharyngitis, otitis media, pneumonia), Skin and soft tissue infection (Impetigo, folliculitis, furuncle, carbuncle, cellulites and erysipelas), Infection of central nervous system (Meningitis and Encephalitis). Bacteremia and sepsis, Pyrexia of unknown origin (PUO).Gastrointestinal infection and food poisoning, Urinary tract infections, Sexually transmitted diseases, Infection in special populations (Malignancy, AIDS, Tuberculosis and leprosy). Zoonotic diseases-epidemiology, diagnosis, control and prevention.

UNIT-IV (20)

- Epidemiology, surveillance and control of community and hospital infections. Antimicrobial chemotherapy, emergence of drug resistance (MRSA, ESBL and MDR TB). Methods of prevention and control- isolation of patients, quarantine and incubation period of various infectious diseases. Management of patients in infectious diseases hospital.

Course outcome: On completion of the course, Students will be benefitted in understanding the role of various agents and treatment mechanisms to combat various pathogenic diseases of human and to create public health awareness.

SEMESTER-IV

ELECTIVE-B

MB-EC-401 Pharmaceutical Microbiology

Full Mark: 100

Course Objective: The course will impart knowledge regarding various diseases of humans and role of antibiotics in disease control.

UNIT-I (20)

- Concepts of pharmaceuticals, biologics and biopharmaceuticals, sources of biopharmaceuticals, biopharmaceuticals in production and research, cytokines, haemopoietic growth factors, hormones, blood products, therapeutic enzymes (Asparaginase, Streptokinase, beta lactamases), Vaccines & their production (DNA vaccines, synthetic, peptide vaccines, multivalent subunit vaccines, edible vaccines).

UNIT-II (20)

- Drug discovery and development Introduction to drug discovery and development, sources of drugs, approaches to new drug discovery, role of molecular recognition in drug design, enzymes and receptors as drug targets, pro-drug design and applications, computer aided drug design, preclinical and clinical trials.

UNIT-III (20)

- Microbial production contamination and spoilage of pharmaceuticals products (sterile injectables, ophthalmic preparations and implements) and their sterilization, FDA, govt. Regulatory practices and policies, concept of R & D, quality control and market planning. Significance of IP, BP and USP. Reimbursement of drugs, biological and legislative aspects, patenting of drugs and biological products.

UNIT-IV (20)

- Quality Assurance and Validation. Regulatory aspects of QC, QA, and QM. GMP, GLP and CMP in Pharma Industry. ISO, WHO, USFDA certification. Microbial Limit test of Pharma products. Sterility testing, pyrogen testing and LAL test of Sterile Pharma products. Sterilization- heat, D- value, Z-value and survival curve, radioactive, gaseous and filtration. Chemical and biological indicators. Designing layout for microbiology laboratory.

Course outcome: On completion of the course, Students will be benefitted in understanding the role of various agents and treatment mechanisms to combat various pathogenic diseases of human and to create public health awareness.

SEMESTER-IV

ELECTIVE-A

MB-EC-402 Advances in Agriculture Microbiology

Full Mark: 100

Course Objective: The course is designed to teach students regarding the microbial activity in rhizosphere and phyllosphere, nitrogen fixing and phosphate utilization mechanisms in microbes, diseases and resistance against diseases.

UNIT-I

(20)

- Soil microorganisms in agro ecosystems: Types of microbial communities; soil microbial diversity: significance and conservation; effect of agricultural practices on soil organisms Biological nitrogen-fixation: The range of nitrogen fixing organisms; mechanism of nitrogen fixation (biochemistry of nitrogenase); genetics of nitrogen-fixation; Rhizobium-Legume Association; N₂ fixation by non- leguminous plants.

UNIT-II

(20)

- Chemical transformation by microbes: Organic matter decomposition, nutrient mineralization and immobilization; transformation of carbon and carbon compounds; availability of phosphorus, sulfur, iron and trace elements to plants; biodegradation of herbicides and pesticides, Biofertilizer: Mass cultivation of microbial inoculants; green manuring; algalization; Azolla.

UNIT-III

(20)

- Microbial products and plant health: PGPR (plant growth promoting rhizobacteria); significance of mycorrhizae; toxin producing microbes (antibiotics, aflatoxin, etc.); microbial herbicides; biological control. Bioindicators - their relevance and utility; Measurement of Microbial activity in environmental samples; Microbial transport and bioaugmentation. Edible and poisonous mushrooms, morphology, classification and nutritional values.

UNIT-IV

(20)

- Microorganisms and organic pollutants; Biodegradation, Bioremediation; Microorganisms and metal pollutants; Emerging Technologies in environmental microbiology and its application; Bio reporters, Biosensors, and Microprobes; Microbial Fuel Cell; Environmental Risk assessment of GMOs.

Course outcome: On completion of the course, Students will get an idea about several mechanisms for nutrition uptake by microorganisms, various pathogenic and non- pathogenic plants diseases and their resistance in terms of physiological, biochemical and genetic aspects.

SEMESTER-IV

ELECTIVE-B

MB-EC-402 Plant Pathology

Full Mark: 100

Course Objective: The course is designed to impart students about microbes use in composting; bioenergy production. The course will also provide insights into use of microbes as biofertilizers and transgenic manipulations.

UNIT-I (20)

- Plant Pathology: Terminology of disease, components of disease, causes and classification of disease, disease cycle; general symptoms of plant disease. Pathogenesis in disease development, plant-parasite relationship, microbial toxins in plant disease. Effects of pathogens on physiology of plants.

UNIT-II (20)

- Genetic basis of host-pathogen interactions: Genetics of virulence in pathogen and resistance in host plant. Epidemiology and Forecasting of plant diseases. Methods of control of plant diseases: Physical, Chemical and Biological methods of control. Integrated pest management. Biocides in crop protection: Biocides and its types, Recombinant DNA technology for insecting, Bt genes into other organisms.

UNIT-III (20)

- Diseases caused by bacteria: General symptoms, Survival and spread of bacterial plant pathogen. Diseases caused by Pathogenic Fungi: General symptoms, Survival and spread of fungal plant pathogen. Diseases caused by mastigomycotina.

UNIT-IV (20)

- Diseases caused by ascomycotina, Diseases caused by Basidiomycotina: Rust and smut. Diseases caused by deuteromycotina Diseases caused by nematodes, Diseases caused by flowering plants, Non parasitic diseases caused by environmental factors,

Course outcome: On completion of the course, Students will get an idea about microbial uses for improving agriculture and compacting several plant diseases and will help in future research in the field of sustainable agriculture.

SEMESTER-IV

ELECTIVE-A

MB-EC-403 Industrial Microbiology and Applications **Full Mark: 100**

Course Objective: The course will provide knowledge regarding fermentation technologies, and use of microbes for industrial exploitations.

UNIT-I **(20)**

- History, scope and development of Industrial Microbiology, Industrially important microorganisms, Suitability of microbial strains in industrial processes, Types of fermentation processes, Design of a fermenter, Economic aspects of fermentation processes

UNIT-II **(20)**

- Isolation, selection, improvement and maintenance of industrial important strain. Metabolic pathways and metabolic control mechanisms.
- Substrates for industrial fermentation, Fermentation media formulation and sterilization, Inoculum development, Production of primary metabolites (alcohols, vitamins, enzymes and organic acids) and secondary metabolites (antibiotics and toxins).

UNIT-III **(20)**

- Batch and continuous culture in fermentation, growth kinetics of micro-organisms, classification of fermentation process; Effect of environmental factors on the growth of microorganisms: Temperature, pH, Nutrient concentration, Kinetics of thermal death of micro-organisms.

UNIT-IV **(20)**

- Downstream processing objectives and criteria: Foam separation, Precipitation methods Filtration devices, Industrial scale centrifugation and cell disruption methods, Liquid-liquid extraction, Solvent I recovery, Chromatography, Two phase aqueous extraction, Supercritical fluid extraction, Ultrafiltration, Crystallization.

Course outcome: On completion of the course, Students will get an overall idea regarding design of bioreactors, use of culture systems for several industrial product formations as well as downstream processing.

SEMESTER-IV

ELECTIVE-B

MB-EC-403

Food Microbiology

Full Mark: 100

Course objective: Student will learn about the source of Microbes in Food, food spoilage and preservation techniques.

UNIT-I

(20)

- Intrinsic and extrinsic parameters of foods that affect microbial growth, Primary sources of microorganisms in foods, Types of microorganisms in foods: Meat (Fresh and Frozen), Poultry, Vegetables, Dairy products.

UNIT-II

(20)

- Food Borne Diseases: Incidence of microorganisms, nutritional requirements for growth, gastrointestinal syndrome and prevention of diseases caused by *Staphylococcus aureus*, *Clostridium botulinum* and *Clostridium perfringens*.

UNIT-III

(20)

- Microbial spoilage of foods: Spoilage of fruits and vegetables, Spoilage of fresh meat and processed meats, poultry and processed poultry meats, Spoilage of eggs, cereals, bakery products, beer, wines and canned foods.

UNIT-IV

(20)

- Food preservation: Preservation of foods with high temperature, low temperature, radiation (drying), chemicals, antibiotics and antifungal agents, Fermentation.

Course outcome: After completion of the course students will get an idea about source of Microbes in Food, food spoilage and preservation techniques.

SEMESTER-IV

MB-404

PRACTICAL

Full Mark: 100

1. Dissolved oxygen
2. BOD
3. COD
4. Estimation of protein from unknown sample.
5. Iodine test for polysaccharides
6. Benedict's test for reducing sugar from unknown sample.
7. Estimation of carbohydrates by anthron method.
8. Production of wine.
9. Production of ethanol.
10. ELISA
11. Cloning
12. Mushroom cultivation/spawn production
13. Pathogen isolation from diseased plants/animals
14. Screening of antibiotic production from bacteria/fungi/Clinical sample collection/isolation of food spoilage microbes from different sources

SEMESTER-IV

MB-405 Dissertation

Full Mark: 200

Course Objectives: The course aims to develop the skill of experimental design, critical thinking and scientific writing.

Content:

Each student is required to carry out a dissertation work involving either experimental research work or a review work under the supervision of a faculty member and submit a dissertation. The student has to start the project work from beginning of Semester- IV and submit the dissertation before the commencement of Semester IV theory examination. The project will be evaluated in Semester IV .The student has to give a Power Point Presentation in the presence of an external examiner and an internal examiner (the Supervisor). The project will be evaluated by the examiners based on the dissertation (100 marks), Power Point Presentation (50 marks) and viva-voce (50 marks).

Course Learning Outcomes: Students will learn how to design experiments, think critically and write dissertation. The course will be a preliminary training to do research.

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- ✚ Mehrotra, R. S. and Aneja, R. S. (1998). **An Introduction to Mycology**, New Age International, New Delhi.

- ✚ Mohapatra P.K. (2006). **Textbook of Environmental Biotechnology**. I.K. Int. Publ., New Delhi, India. 515 pp.
- ✚ Nathanson J. A. **Basic Environmental Technology** (4th Ed.). Prentice-Hall India Pvt. Ltd.
- ✚ Nelson, D.L., Cox M.M. (2008) **Lehninger Principles of Biochemistry**, 5th edn. Macmillan Publisher. 1158 pp.
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- ✚ Paniker, CK Jayaram. **Textbook of medical parasitology**. No. Ed. 6. Jaypee Brothers Medical Publishers (P) Ltd, 2007.
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A collection of handwritten signatures and dates in black ink. From left to right:

- A signature that appears to be 'Rajeev' with the date '6/10/23' below it.
- A signature that appears to be 'Anita Singh' with the date '06/10/23' below it.
- A signature that appears to be 'Hina' with the date '06/10/23' below it.
- A signature that appears to be 'RKNam' with the date '6/10/23' below it.
- A signature that appears to be 'Samir' with the date '06-10-23' below it.
- A signature that appears to be 'A.P.' with the date '06-10-23' below it.
- A signature that appears to be 'V.' with the date '06/10/23' below it.

SYLLABUS
M.A. (ECONOMICS)
Choice Based Credit System
2023-24



DEPARMENT OF ECONMICS
MAHARAJA PURNA CHANDRA AUTONOMOUS COLLEGE,
TAKHATPUR, BARIPDA,
MAYURBHANJ, ODISHA

AFFILIATED TO MSCB UNIVERSITY
SRI RAM CHANDRA VIHAR
TAKHATPUR, BARIPDA,

MASTER OF ARTS
DEPARTMENT OF ECONOMICS
CHOICE BASED CREDIT SYSTEM
SYLLABUS

There shall be twenty papers in the MA in Economics divided into four Semesters i.e. Sem-I, Sem-II, Sem-III and Sem- IV, as detailed below. Each paper carrying 100 marks comprises of four Modules. There shall be internal assessment examination for 20 marks and University Examination for 80 Marks for each paper. Internal assessment examination shall be conducted by the HOD, Economics and the internal assessment marks shall be submitted to the COE, M.P.C Autonomous College before commencement of the End Semester Examination. Two questions from each module shall be set in the Examination and the students shall have to answer four questions carrying 20 marks each selecting one from each Module. The Examination shall be of 3 hours duration in each paper.

SEMESTER-I

Course Code	Course Name	Course Name	Contact Hours	Marks		
				Mid Semester	End Semester	Total
CC-101	Microeconomic Analysis-I	5	50	20	80	100
CC-102	Macroeconomic Analysis-I	5	50	20	80	100
CC-103	Mathematics for Economists	5	50	20	80	100
CC-104	Public Economics	5	50	20	80	100
CC-105	Indian Economic Policy	5	50	20	80	100

SEMESTER-II

Course Code	Course Name	Course Name	Contact Hours	Marks		
				Mid Semester	End Semester	Total
CC-201	Economics of Environment	5	50	20	80	100
CC-202	Microeconomic Analysis-II	5	50	20	80	100
CC-203	Macroeconomic Analysis-II	5	50	20	80	100
CC-204	Statistics for Economists	5	50	20	80	100
CC-205	Agricultural Economics	5	50	20	80	100

SEMESTER-III

Course Code	Course Name	Course Name	Contact Hours	Marks		
				Mid Semester	End Semester	Total
CC-301	Research Methodology	5	50	20	80	100
CC-302	Economics of Growth and Development-I	5	50	20	80	100
CC-303	International Trade and Finance-I	5	50	20	80	100
Elective-I (Any One out of DEC-304 (a) & (b))						
DEC-304	(a)Econometrics-I (b)Financial Institutions and Markets-I	5	50	20	80	100
OEC-305	An Overview of Indian Economy	5	50	20	80	100

SEMESTER-IV

Course Code	Course Name	Course Name	Contact Hours	Marks		
				Mid Semester	End Semester	Total
CC-401	Industrial Economics	5	50	20	80	100
CC-402	Economics of Growth and Development-II	5	50	20	80	100
CC-403	International Trade and Finance-II	5	50	20	80	100
Elective-II (Any One out of DEC-404 (a) & (b))						
DEC-404	(a)Econometrics-II (b)Financial Institutions and Markets-II	5	50	20	80	100
CC-405	Project Work / Dissertation	5	50	20	80	100

Master of Arts

Economics

Programme Outcomes

- The programme shall develop the ability to explain core economic terms, concepts, and theories leading to intellectual growth of the students.
- It will enhance their ability to employ the “economic way of thinking” and enable them to assess the role of domestic and international institutions and norms in shaping economies.
- After the completion of the course the students will develop cognitive ability to apply economic theories and concepts to contemporary social issues and can suggest for formulation of economic and social development policies.
- The programme enables the learners to build up a professional carrier as economists, financial advisors, economic planners and policy makers. It prepares them to cope up with the stress and strain involved in the process of economic development.

Programme Specific Outcomes

- Students of MA in Economics will be able to understand the past, comprehend the present economic condition and forecast the future course of changes in the level of development expected to come through different policies and programmes pursued by the governments and other development agencies.
- The programme will enhance the skill of the students to compute and assess the real situation of the economy, such as demographic changes, income, saving, and investment pattern, nature of employment and social security measures in relation to other countries.
- The programme enables the students to learn application of economic theories in real world situations and foster the development of their own skills in economic reasoning and understanding.

SEMESTER – I
CC – 101: MICROECONOMIC ANALYSIS – I
Credit: 05

Objectives:

- To make the students capable of understanding the behaviour of economic agents.
- To understand how markets work and forecasting how various factors influence the prices and quantities of the product in the market

Module - 1

Demand function and Elasticity (price, cross, income) of demand - theoretical aspects and empirical estimation; Theories of demand - utility, indifference curve (income and substitution effects, Slutsky theorem, compensated demand curve) and their applications Revealed preference theory; Revision of Demand Theory by Hicks, consumer's choice involving risk, Consumer's surplus, Elementary theory of price formation - demand and supply equilibrium; Cobweb theorem; Lagged adjustment in interrelated markets.

Module - 2

Production function - short period and long period; Law of variable proportions and returns to scale; Isoquants - least cost combination of inputs; Returns to factors; Economies of scale; Elasticity of substitution; Euler's theorem, Technical progress and production function; Cobb-Douglas; Traditional and modern theories of costs-empirical evidence; derivation of cost functions from production functions; Derived demand for factors.

Module – 3

Marginal analysis as an approach to price and output determination; Perfect competition - short run and long run equilibrium of the firm and industry, price and output determination, supply curve; Monopoly - short run and long run equilibrium, price discrimination, welfare aspects, monopoly control and regulation;

Monopolistic competition - general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group with product differentiation and selling costs, excess capacity under monopolistic and imperfect competition;

Module – 4

Non-collusive Oligopoly; Cournot's Duopoly Model, Bertrand's Duopoly Model, Edgeworth, Chamberlin, Kinked demand curve and Stackelberg's solution Collusive Oligopoly; cartels and mergers, price leadership and basing point price system models; Price and output determination under monopsony and bilateral monopoly.

Course Outcome: The outcome of the paper is to understand the economic behaviour of individuals, firms and markets. It is mainly to equip the students in a rigorous and comprehensive understanding with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firms. The study of Microeconomic Analysis makes the minds of students more logical and enhances their capability to qualify for different jobs in government and nongovernment sectors, banking sector and other jobs.

References

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CC – 102: MACROECONOMIC ANALYSIS – I

Credit: 05

Objectives:

- To learn the major perspectives on what determines performance of the overall economy and will learn to analyse impacts on the economy.
- To learn the key approaches to macroeconomic policy and its effects.
- To understand the functional relationships among macroeconomic aggregates.

Module - 1

National Income and Accounts: Circular flow of income in two, three and four sector economy; different forms of national income accounting- social accounting, input-output accounting, flow of funds accounting and balance of payments accounting

Consumption Function: Keynes' psychological law of consumption - implications of the law; short-run and long-run consumption function; Empirical evidence on consumption function; Income-consumption relationship - absolute income, relative income, life cycle and permanent income hypotheses.

Module - 2

Investment Function: Marginal efficiency of investment and level of investment; Marginal efficiency of capital and investment - long run and short run; the accelerator and investment behaviour - impact of inflation; Influence of policy measures on investment - empirical evidence

Module - 3

Supply of Money: Financial Intermediation - a mechanistic model of bank deposit determination; A behavioural model of money supply determination, a demand determined money supply process; RBI approach to money supply; High powered money and money multiplier; control of money supply.

Demand for money: Classical approach to demand for money - Quantity theory approach, Fisher's equation, Cambridge Quantity theory, Keynes liquidity preference approach, transaction, precautionary, and speculative demand for money - aggregate demand for money

Module - 4

Neo-classical and Keynesian views on interest; The IS-LM model; Extension of IS-LM Model with government sector; Relative effectiveness of monetary and fiscal policies; Extension of IS-LM models with labour market and flexible prices.

Outcome: The outcome of the paper is to understand the behaviour of macroeconomic variables and circular flow. The students are able to analyse the functional relationships among aggregates like: price, investment, employment, etc. The course will enable them to get employment in government policy institutions.

References

- Ackley, G. (1978), *Macroeconomics: Theory and Policy*, Macmillan, New York.
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CC – 103: MATHEMATICS FOR ECONOMISTS

Credit: 05

Objectives:

- To improve the mathematical skills necessary to study economics.
- To identify, solve and interpret the characteristics of mathematical functions.
- To learn nonlinear functions using differential calculus.

Module - 1

Concept of function and types of functions; Limit, continuity and derivative; Rules of differentiation; Interpretation of revenue, cost, demand, supply functions; Elasticity and their types; Multivariable functions; Concept and types of production functions; Rules of partial differentiation and interpretation of partial derivatives;

Module - 2

Problems of maxima and minima in single and multivariable functions; Unconstrained and constrained optimization in simple economic problems; Simple problems in market equilibrium; Concept of integration; Simple rules of integration; Application to consumer's surplus; Growth rates and simple properties of time path of continuous variables.

Module - 3

Determinants and their basic properties; Solution of simultaneous equations through Cramer's rule; Concept of matrix - their types, simple operations on matrices, matrix inversion and rank of a matrix; Concept of vector - its properties; Matrices and vectors; Concept of quadratic forms - Eigen roots and Eigen vectors; Introduction to input-output analysis; Difference equations - Solutions of first order and second order difference equations; Applications in trade cycle models; Growth models and lagged equilibrium models.

Module - 4

Linear programming - Basic concept; Formulation of a linear programming problem – Its structure and variables; Nature of feasible, basic and optimal solution; Solution of linear programming through graphical and simplex method; Statement of basic theorems of linear programming; Formulation of the dual of a programme and its interpretation; Shadow prices and their uses; Concept of duality and statement of duality theorems; Concept of a game; Strategies - simple and mixed; Value of a game; Saddle point solution; Simple applications.

Outcome: The course introduces the learners to the basic mathematical concepts, tools, and techniques and also discusses how these techniques are applied to economic analysis with examples. It mainly focuses on those mathematical techniques which are directly useful in economic analysis which can be applied by the students in their professional lives. It enhances the analytical skill of the students and increases their employability in different government, quasi government and nongovernment sectors.

References

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- Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
- Gupta, S.C. (1993) Fundamentals of Applied Statistics, S.Chand& Sons, New Delhi.
- Handry, A.T. (1999), Operations Research, Prentice Hall of India, New Delhi.
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- Taha,H.A.(1997) Operations Research : An Introduction (6th Edition), Prentice Hall of India Pvt. Ltd New Delhi.
- Yamane, Taro (1975) Mathematics for Economists, Prentice Hall of India, New Delhi.

CC – 104: PUBLIC ECONOMICS

Credit: 05

Objectives:

- To understand the economics of government expenditure and taxation.
- To learn the effects of government intervention on behaviour of individuals, households, and firms.
- To understand the implications of public policies for ensuring efficiency and equity.

Module - 1

Role of government, Private goods, public goods, and merit goods; Market failure - imperfections, decreasing costs, externalities, public goods; Uncertainty and non-existence of Future markets; Information asymmetry - Theory of second best.

Module - 2

Public Expenditure: Wagner's law of increasing state activities: Wiseman-Peacock hypothesis; Pure theory of public expenditure; Structure and growth of public expenditure; Reforms in expenditure budgeting; Programme budgeting and zero base budgeting. Taxation: Theory of optimal taxation; Excess burden of taxes; Trade - off between equity and efficiency; Theory of measurement of dead weight losses; the problem of double taxation

Module - 3

Fiscal Policy: Objectives of Fiscal policy - Interdependence of fiscal and monetary policies; Budgetary deficits and its implications; Fiscal policy for stabilization - automatic vs. discretionary stabilization. Balanced budget multiplier. Public Debt: Classical view of public debt; Compensatory aspect of debt policy; Principles of debt management and redemption

Module - 4

Principle of multi-unit finance: Fiscal federalism in India; Vertical and horizontal imbalance; Assignment of function and sources of revenue; Constitutional provisions; Finance commission Devolution of resources and grants; Theory of grants: Resource transfer from Union to States - Criteria for transfer of resources; Problems of State's resources and indebtedness;

Indian tax system; Revenue of the Union, states and local bodies; Major taxes in India: base of taxes, direct and indirect taxes, reforms in direct and indirect taxes, taxes on services; Nontax revenues of Centre, State and local bodies; Analysis of Central and State government Budgets;

Outcome: Considering the increasing role of Government in economy, this course aims to generate theoretical and empirical understanding of students about different aspect of Governmental activities and their rationality. The course would develop the analytical ability of students to distinguish between beneficial and detrimental effects of a government policy and their effect on macroeconomics framework of an economy. It will help students to critically analyse the fiscal reforms and policy choices of the government in developed and developing countries. It helps students to get employment in public policy institutions, government and non-government institutions.

Reference:

- Atkinson A.B. and J.E. Siglitz (1980) Lectures on Public Economics, Tata McGraw Hill, New York.
- Auerbach, A.J. and M.Feldstern (Eds) (1985), Handbook of Public Economics, Vol. I. North Holland Amsterdam.
- Buchanan, J., M. (1970) The Public Finances, Richard D.Train Home-wood.
- Goode R. (1986) Government Finance in Developing Countries Tata McGraw Hill, New Delhi.
- Houghton, J.M. (1970) The Public Finance, Selected Reading, Pengin, Harmondsworth.
- Jha, R (1998) Modern Punlic Economics Routledge, London.
- Menutt, P.(1996), The Economics of public choice, Edward Eigar, U
- Musgrave, R.A and P.B.Musgave (1976) Public Finance in Theory and Practices, McGraw Hill Kogakusha, Tokyo.
- Shome.P, (Ed) (1995) Tax policy: Handbook Tax Division Fiscal Affairs Department, International Monetary Fund Washington D.C.

CC – 105: INDIAN ECONOMIC POLICY

Credit: 05

Objectives:

- To know the basic characteristics of Indian economy.
- To learn different tools to measure poverty and inequality.
- To understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.

Module - 1

Indicators of Development - PQLI, Human Development Index (HDI), gender development indices. Planning in India: Objectives and strategy of planning; Failures and achievements of plans; Developing grass-root organizations for development - Panchayats, NGOs and pressure groups.

Module - 2

Broad demographic features of Indian population; Rural-urban migration; Urbanization and civic amenities; Poverty and Inequality Economic Reforms: Rationale of internal and external Reforms; Globalisation of Indian economy;

Module - 3

Agrarian Structure - land reforms in India; Technological change in agriculture - pricing of agricultural inputs and output; Terms of trade between agriculture and industry; Agricultural finance policy; Agricultural Marketing and warehousing; Issues of food security - policies for Sustainable agriculture.

Module - 4

Public sector enterprises and their performance; Problem of sick units in India; Privatisation and disinvestment debate; Small-scale sector; Parallel economy; Problems relating to fiscal policy; Fiscal crisis and fiscal sector reforms in India. Analysis of price behaviour in India: Financial sector reforms: Review of monetary policy of RBI.

Outcome: To have knowledge about different issues related to Indian Economy like planning, poverty, unemployment, sectoral structure, monetary policy, fiscal policy and economic development. The students can apply the knowledge so received in the field of research and policy analysis. The students cutting across discipline can apply the knowledge so received in the field of competitive examination, research and policy analysis.

Reference:

- Ahluwalia, I.J. and I.M.D, Little (Eds) (1999), India's „Economic Reforms and Development (Essay in Honour of Manmohan Singh Oxford University Press, New Delhi.
- Bardhan P.K. (9th Edition) (1999) the Political Economy of Development in India, Oxford University Press, New Delhi.
- Bawa, R.S. And P.S. Raikhy (Ed) (1997) Structural Changes in Indian Economy, Guru Nanak Dev University Press, and Amritsar.
- Brahmamnda P.R. and V.R Panchmukhi (Eds) (2001) Development Experience in the Indian Economy: Inter State Perspectives. Bookwell Delhi.
- Chakravarty. S. (1987) Development Planning The Indian Experience, Oxford University Press, New Delhi.
- Dantwala M L. (1996) Dilemmas of Growth the Indian Experience sage publication New Delhi.
- Shoup, C.S., (1970), Public Finance, Aldine, Chicago
- Datt. R. (Ed) (2001) Second Generation Economic Reforms in India, Deep & Deep Publications, New Delhi.
- Govt of India, Economic Survey (Annual) Ministry of Finance New Delhi.
- Jain A, K. (1986) Economic Planning in India, Ashish Publishing House, New Delhi.
- Jalan, B. (1992) the Indian Economy Problems and Prospects, Viking, New Delhi.
- Jalan.B. (1996) India's Economic policy Preparing for the Twenty First Century, Viking, New Delhi
- Joshi, V. and I.M.D. Little (1999) India: Macro Economics and Political Economy, 1964-1991, Oxford University Press, New Delhi
- Parikh K.S. (1999) India Development Report-1999-2000, Oxford University Press, New Delhi
- Reserve Bank of India, Report on Currency and Finance (Annual)

- Sandesara, J.C. (1992), Industrial policy and planning 1947.-1991: Tendencies, Interpretations and Issues, Sage Publications, New Delhi.
- Sen, R.K. and B. Chatterjee (2001) Indian Economy: Agenda for 21st century (Essays in Honour of Prof. P.R. Brahamananda) Deep & Deep publications, New Delhi

SEMESTER – II
CC-201: ECONOMICS OF ENVIRONMENT
Credit: 05

Objectives:

- To understand the causes of market failure and the importance of property rights in Context of environment.
- To show how economic analysis can help identify the causes of environmental Degradation and the policy measures to deal with.

Module 1

Pareto optimality and competitive equilibrium; Fundamental theorems of welfare economics; Externalities and market inefficiency - externalities as missing markets; property rights and externalities, non-convexities and externalities; Pareto optimal provision of public goods - Lindahl's equilibrium; preference revelation problem and impure and mixed public goods, common property resources.

Module 2

Use values; Option values and non-use values; Valuation methods: methods based on observed market behaviour; Hedonic property values and household production models (travel cost method and household health production function), Methods based on response to Hypothetical markets, contingent valuation method.

Module 3

Environmental externalities: Pigouvian taxes and subsidies, marketable pollution permits and Mixed instruments (the charges and standards approach), Coase's bargaining solution and collective action; Informal regulation and the new model of pollution control, Monitoring and Enforcement of environmental regulation, Environmental institutions and grass root movements; Global environmental externalities and climatic change - Tradable pollution permits and international carbon tax, Trade and environment in WTO regime.

Module 4

Theories of optimal use of exhaustible and renewable resources; Environmental and development trade off and the concept of sustainable development; Integrated environmental and economic accounting and the measurement of environmentally corrected GDP; Macroeconomic policies and environment.

Outcome: The students get a scope to understand the valuation of environmental goods. It also makes them aware of environmental problems and policy measures undertaken by government. The students also learn how to make optimum use of renewable and non - Renewable natural resources. Understanding of environmental issues and management of environmental resources enhances their employability in NGOs specially involved in environment protection.

Reference:

- Baumol W.J. and W.E. Oates (1988) the Theory of Environmental Policy (2nd Edition) Cambridge University Press, Cambridge.
- Bromley, D.W.(Ed) (1995), Handbook of Environmental Economics, Blackwell, London
- Fisher, A, C. (1981) Resource and Environmental Economics, Cambridge University Press Cambridge.
- Hanley N.J.F. Shogern and B.white (1997) Environmental Economics in Theory and Practice Macmillan.
- Hussen A.M. (1999) Princifples of Environmental Economics Routledge, London.
- Jeroen, C.J.M. van den Bergh (1999) Handbook of Environmental and Resource Economics, Edward Elgar Publishing Ltd U.K.
- Kolstad C.D. (1999) Environmental Economics, Oxford University Press, New Delhi.
- Pearce D.W. and R. Turner (1991) Economics of Natural Resource Use and Environment, John Hopkins University Press, Baltimore.
- PermanR.Ma and J. McGilvary (1996) Natural Resource and Environmental Economics, Longman, London.
- Tietenberg, T. (1994) Environmental Economics Policy and Harper Collins New York.

CC - 202: MICROECONOMIC ANALYSIS –II

Credit: 05

Objectives:

- It helps students to apply the theoretical knowledge in research.
- To understand theoretical models in a conceptually and analytically rigorous form, also with references to theoretical studies and applied researches.
- To form an opinion on the scope and limitations of the theoretical models.

Module 1

Critical evaluation of marginal analysis; Baumol's sale revenue maximization model; Williamson's model of managerial discretion; Marris model of managerial enterprise; Full cost pricing rule; Bain's limit pricing theory and its recent developments including Sylos-Labini's model; Behavioural model of the firm; Game theoretic models

Module 2

Neo-classical approach - marginal productivity theory; Product exhaustion theorem; Elasticity of technical substitution; technical progress and factor shares; Theory of distribution in imperfect product and factor markets. Determination of rent, wages, interest and profit; Macro theories of distribution - Ricardian, Marxian, Kalecki and Kaldor's

Module 3

Pigovian welfare economics; Pareto optimal conditions; Value judgement; Social welfare function; Compensation principle; Inability to obtain optimum welfare - Imperfections, market failure, transaction costs, externalities

Module 4

Theory of Second Best - Arrow's impossibility theorem. Partial and general equilibrium, Walrasian excess demand and input-output approaches to general equilibrium, existence, stability and uniqueness of equilibrium and general equilibrium

Outcome: The course will make the students capable of understanding the various economic Issues and applied part of the economics. It will empower students to explain the social reality with better arguments and optimum solutions. The students will understand the basics Of distribution of income and wealth. Learners get exposed to various types of efficiencies and become able to analyse the situations under which the market fails and how the state interferes in achieving efficiency for promotion of social welfare. The study of Microeconomic Analysis makes the minds of students more logical and enhances their capability to qualify for different jobs in government and nongovernment sectors, banking sector and other jobs.

Reference:

- Kreps. David M. (1990). A.course in Microeconomic Theory, Princeton University press, Princeton.
- Koutsoyiannis, A. (1979) Modern Microeconomics, (2nd edition) Macmillan press, London.
- Layard, P.R.G. and A.W. Walters (1979), Microeconomic Theory, McGraw Hill, New York.
- Sen, A. (1999), Microeconomics: Theory and Applications, Oxford University press, New Delhi.
- Stigler, G. (1996), Theory of Price, (4th Edition), Prentice Hall of India, New Delhi.
- Varian, H. (2000) Microeconomic Analysis, W.W. Norton, New York.

CC - 203: MACROECONOMIC ANALYSIS –II

Credit: 05

Objectives:

- To introduce students to advanced topics in macroeconomics to enhance independent Research.
- To learn how to use these indicators in evaluating current economic conditions.
- To learn what determines the performance of economy.

Module 1

Post-Keynesian Demand for Money: Post-Keynesian approaches to demand for money - Patinkin and the real balance effect, Approaches of Baumol and Tobin; Friedman and the modern quantity theory; Crisis in Keynesian economics and the revival of monetarism.

Module 2

Classical, Keynesian and Monetarist approaches to inflation; Structuralist theory of inflation; Philips curve analysis - short-run and long run Philip's curve; Samuelson and Solow – the natural rate of unemployment hypothesis.

Module 3

Business Cycles: Theories of Schumpeter, Kaldor, Samuelson and Hicks, Goodwin's model: Control of business cycles - relative efficacy of monetary and fiscal policies.

Module 4

Macroeconomic in an Open Economy: Mundell-Fleming model - Asset markets. Expectations and exchange rates; monetary approach to balance of payments New Classical Macroeconomics: The new classical critique of micro foundations, the new classical approach: policy implications of new classical approach - empirical evidence.

Outcome: On completion of the course students will be able to apply supply and demand models to analyse responses of market to external events, Analyse different phases of trade cycle, demonstrate various trade cycle theories, understand the impact of cyclical fluctuation on the growth of business, and lay policies to control trade cycle. They can illustrate the meaning of inflation and its relation with unemployment. The course will enable them to get Employment in government policy institutions.

Reference:

- Ackley, G. (1978), *Macroeconomics: Theory and Policy*, Macmillan, New York.
- Blackhouse, R. and A. Salansi(Eds.) (2000), *Macroeconomics and the Real World* (2vols) Oxford University Press, London.
- Branson, W.A.(1989) *Macroeconomics Theory and policy*, (3rd Edition) Harper and Row New York.
- Dornbusch, R. and F. Stanley (19997), *Macroeconomics*, McGraw Hill, Inc, New York.
- Hall, R.E and J.B Taylor (1986), *Macroeconomics*, W.W. Norton, New York.
- Heijdra, B.J.and V.P. Fredericck(2001), *Foundations of Modern Macroeconomics*, Oxford university press, New Delhi,
- Jha, R.(1991), *Contemporary Macroeconomics Theory and Policy* Wiley Eastern Ltd. New Delhi.
- Romer D.L. (1977) *Advanced Macroeconomics*, McGraw Hill Company Ltd., New York.
- Scarfe, B.L., (1977), *Cycles, Growth and Inflation*, McGraw Hill, New Yourk.
- Shapiro, E. (1996) *Macroeconomic Analysis*, Galgotia Publications, New Delhi.
- Survey.M.J.C (Ed) (1976) *Macroeconomic Themes*, Oxford University Press, Oxford.

CC - 204 STATISTICS FOR ECONOMISTS

Credit: 05

Objectives:

- To understand basic theoretical and applied principles of statistics.
- To learn sampling techniques for research work.
- To acquire knowledge on formulation of hypothesis and it's testing.

Module 1

Meaning, assumptions and limitations of simple correlation and regression analysis; Pearson's correlation coefficient and Spearman's rank correlation coefficients and their properties; Concept of the least squares and the lines of regression; Standard error of estimate; Partial and multiple correlation and regression.

Module 2

Deterministic and non-deterministic experiments; various types of events - classical and empirical definitions of probability; Laws of addition and multiplication; Conditional probability and concept of interdependence; Baye's theorem and its applications

Module 3

Elementary concept of random variable; Probability, mass and density functions; Properties (without derivations) of Binomial, Poisson and Normal distributions

Module 4

Basic concept of sampling - random and non-random sampling; Simple random; stratified random and P.P.S. sampling; Concept of an estimator and its sampling distribution; Desirable properties of an estimator

Formulation of statistical hypotheses - Null and alternative; Goodness of fit; Confidence intervals and level of significance; Hypothesis testing based on Z, t, Chi-square and F tests; Type 1 and Type 2 errors.

Outcome: Students would learn the common statistical techniques and terminologies used in the course. Students would gain knowledge to interpret examples of methods for summarizing data sets, including common graphical tools and summary statistics. Students would develop an understanding of the basic concepts of probability, random variables, and sampling distribution of a statistic. Students would learn the measurement of central tendency, hypothesis testing, analysis of variance and multiple regression and correlation analysis. They would become familiar with the sources of vital statistics data, how to interpret such data and how to perform basic tests to evaluate them which will help students in their doctoral research and their employability in educational and research institutions improves.

Reference:

- Gupta, S.C. (1993) Fundamentals of Applied Statistics, S.Chand& Sons, New Delhi.
- Handry, A.T. (1999), Operations Research, Prentice Hall of India, New Delhi.
- Speigal, M.R. (1992) Theory and Problems of Statistics, McGrow Hill Book Co, London.

CC - 205 AGRICULTURAL ECONOMICS

Credit: 05

Objectives:

- To study the significance of agriculture in economic development.
- To provide information to students about various modern technology and ideas adopted in the agriculture sector.
- Learn and identify the opportunities open/available in those flourishing sectors such as horticulture, fishing and floriculture and forestry. Find new investment opportunities to add income and employment.

Module 1

Agriculture and Economic Development: Nature and scope of agricultural economics; Traditional agriculture and its modernization; Role of agriculture in economic development; Interdependence between agriculture and industry, Diversification of Rural Economic Activities: Livestock economies - White revolution; Fishery and poultry development; Forestry, horticulture and floriculture

Module 2

Rural Finance: Characteristics and sources of rural credit - Institutional and non-institutional; Role of NABARD, Cooperatives, Commercial Banks, Regional Rural Banks; Cooperation in India: Cooperative movement; Genesis and growth of cooperative sector; Agricultural cooperation in India; Problems and prospects of cooperative institutions.

Module 3

Agricultural Marketing and marketing efficiency - Marketing functions and costs; Market structure and imperfections; Regulated Markets; Marketed and Marketable Surplus; State policy with respect to Agricultural Marketing; Warehousing; Behaviour of Agricultural Prices; Objectives of Agricultural Price Policy - Instruments and evaluation; Food security system in India and public distribution

Module 4

Land Reforms Measures: Principles of land utilization; Land farming systems - Peasant, capitalist, collective, contract and state farming; Problems of marginal and small farmers. Role of MNCs; Globalization of Indian economy and problems and prospects of Indian agriculture; Impact of World Trade Organization on Indian agriculture.

Outcome: Course provides knowledge on agricultural background, farm and agro business activities. It introduces learner applied part of economics instead theoretical, which deals with Allocation of land under various crops, specialization, diversification and other policy implications. Students are able to learn and identify the opportunities open/available in those Flourishing sectors such as horticulture, fishing and floriculture and forestry. Find new investment opportunities to add income and employment. It gives knowledge about the impact of WTO and Globalization on Indian Agriculture. The course enables them to sit for different competitive examinations and succeed in getting jobs in different government and non –government sectors.

Reference:

- C. S. Prasad - Sixty years of Indian Agriculture –New Delhi
- Hansra Parumal and Chandrakarn - Modernization of Indian Agriculture in 21st century challenges, opportunity and strategies, Concept Publication Co. New Delhi.
- Matoria C.B. Agricultural Problems of India Kitab Mahal Publisher Gulati &
- Kelley - Trade Liberalization of Indian Agriculture, (1999), Oxford University Press
- R. R. Renne Land Economics: Principles, Problems, and Policies in Utilizing Land, Resources, Harper Kapila Uma, Indian Economy since Independence, Academic Foundation.
- Bhaduri, A. (1984), the Economic Structure of Backward Agriculture, Macmillan, Delhi.
- Bilgrami, S.A.R. (1996) Agricultural Economics, Himalaya Publishing House, Delhi.
- Dantwala, M. L. ET. Al (1991), Indian Agricultural Development since Independence, Oxford & IBM, New Delhi.
- Govt. of India, (1976) Report of the National Commission on Agriculture, New Delhi.
- Govt. of India, Economic Survey (Annual) New Delhi.
- Gulati, A. and T. Kelly (1999) Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
- Joshi, P. C. (1975) Land Reforms in India: Trends and Prospects, Allied Publishers, Bombay.
- Kahlon A.S. and Tyagi D. S. (1983) Agriculture Price Policy in India, Allied Publishers, New Delhi.

- Rao, C. H. Hanumantha (1975), Agricultural Growth Rural Poverty and Environmental Degradation in India, Oxford University Press, New Delhi.
- Rudra (1982) Indian Agricultural Economics: Myths and Reality, Allied Publishers, New Delhi.
- Saini G.R. (1979) Farm Size, Resource Use Efficiency and Income Distribution, Allied Publishers, New Delhi.
- Soni R. N., Leading Issues in Agricultural Economics, Vishal Publishing Co., Delhi
- R K Lekhi & Joginder Singh, Agricultural Economics, Kalyani Publisher, New Delhi

SEMESTER-III
CC – 301 RESEARCH METHODOLOGY

Credit: 05

Objectives:

- To introduce the basic concepts in research methodology in Social science.
- To addresses the issues inherent in selecting a research problem and discuss the techniques and tools to be employed in completing a research project.
- To enable the students to prepare report writing and framing Research proposals.

Module-1

Introduction to social science research, different types of research, the research proposal and the formulation of research design, methods of collection of data-questionnaire and interview participant observation, theory of case studies, type of data primary and secondary, time-series and cross section data, database of the Indian economy

Module-2

Sampling in social science research, different sampling methods-Random Sampling, probability sampling, simple and stratified random sampling, cluster sampling, systematic sampling, sampling and non-sampling errors

Module-3 Meaning of Experiment, Concepts used in Experiments, Definition of symbols. Classification of Experimental Designs, factors affecting internal validity of Experiment, factors affecting external validity of Experiment.

Module-4

Meaning and purpose of report, Target Group in writing, contents of a report. Format of a report. Qualities of good research report, planning of a report, organization of a report, presentation of a report. Style in writing, conclusion and generalization

Outcomes: Students who complete this course will be able to understand and comprehend the basics in research methodology and applying them in research/ project work. This course will help them to select an appropriate research design. With the help of this course, students will be able to take up and implement a research project/ study. The course will also enable them to collect the data, edit it properly and analyse it accordingly. Thus, it will facilitate students' prosperity in higher education. The Students will develop skills in qualitative and quantitative data analysis and presentation. Students will be able to demonstrate the ability to choose methods appropriate to research objectives.

References:

- Scientific social survey and Research:P V Young
- Methods of Social Research: Goode and Hatt 3. Thesis and Assignment Writing: Durtson and Poole
- Basic Statistics: Goon Gupta and Dasgupta
- Research Methodology: Cauvery, R. et al
- Research Methodology: C.P. Kothari 7. Research Methodology: A.K.P.C. Swain

CC – 302 ECONOMICS OF GROWTH AND DEVELOPMENT - I

Credit: 05

Objectives:

- To understand factors for economic development from theories.
- To gain and understanding of relationship between societies and individual growth.
- To learn reasons for under development and policy suggestions for economic growth and development.

Module 1

Economic growth and development - Factors affecting economic growth: capital, labour and technology; Growth models - Harrod and Domar, instability of equilibrium; Neo-classical growth models - Solow and Meade, Mrs. Joan Robinson's growth model

Module 2

Cambridge criticism of Neo-classical analysis of growth, the capital controversy. Kaldor's growth model; Technological progress - embodied and disembodied technical progress; Hicks, Harrod; learning by doing.

Module 3

Development and underdevelopment - perpetuation of underdevelopment; Poverty – absolute and relative; Measuring development and development gap - Per capita income, inequality of income, Human development index and other indices of development and quality of life - Food security; education, health and nutrition

Module 4

Human resource development; Population problem and growth pattern of population - Theory of demographic transition; Population as limits to growth and as ultimate source - Population, poverty and environment; Economic development and institutions - markets and market failure, state and state failure, issues of good governance.

Outcome: After the completion of the course, the students will be able to understand the basic assumptions and features of economic growth and development. They will develop theoretical knowledge about the concepts of poverty, inequality and development gap and explore diverse dimension and measures of development, as well as the application of microeconomic analysis to issues of development in poor countries, including the study of household decisions and the analysis of institutions and norms influencing development.

Reference:

- Adelman, I. (1961), Theories of Economic Growth and Development Stanford University Press, Stanford.
- Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics vol.3 Elsevier, Amsterdam.
- Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, and Cambridge, Mass.
- Chenery, H.B. et.al (Eds) (1974) Redistribution with Growth Oxford University Press Oxford.
- Sankar, U. (Ed) (2001), Environmental Economics, Oxford University Press, New Delhi.
- Chenery, H. and T.N. Srinivasan (Eds) (1989), Handbook of Development Economics, Vols 1 & 2 Elsevier, Amsterdam.
- Dasgupta, P. (1993), an Enquiry into Well-being and Destitution, Clarendon Press, Oxford.
- Ghatak, S. (1986), an Introduction to Development Economics, Allen and Unwin, London.
- Gillis, M.D.H Perkins, M. Romer and D.R Snodgrass (1992), Economics of Development (3rd Edition), W.W. Norton, New York.
- Gimmell, N (1987), Surveys in Development Economics, Blackwell, Oxford.
- Higgins, B (1959), Economics Development, W.W. Norton, New York.
- Hogendrn, (1996), Economic Development, Addison, Wesley, New York.
- Kahkonon, S. and M. Olson (2000), a New Institutional Approach to Economic Development Vistaar.
- Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York.

- Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition) Oxford University Press, New Delhi.
- Myint, H. (1965), the Economics of Underdeveloped Countries, Preager, New York.
Myint, H. (1971), Economic Theory and Underdeveloped Countries, Oxford University Press, New York.
- Todaro, M P (1996), (6th Edition), Economic Development, Longman, London.
- Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U. K.

CC – 303 INTERNATIONAL TRADE AND FINANCE – I

Credit: 05

Objectives:

- To identify and analyze problems in the field of trade and finance, and to develop solutions.
- To use theoretical and practical knowledge gained in the field of International Trade and Finance.
- To discuss the developments in global markets by using critical thinking skills.

Module 1

The pure theory of international trade - theories of absolute advantage, comparative advantage and opportunity costs, modern theory of international trade; Theorem of factor price equalization; Empirical testing of theory of absolute cost and comparative cost - Heckcher-Ohlin theory of trade

Module 2

Kravis and Linder theory of trade; Role of dynamic factors, i.e. changes in tastes, technology and factor endowments in explaining the emergence of trade; The Rybczynski theorem - concept and policy implications of immiserizing growth; Causes of emergence and measurement of intra-industry trade and its impact on developing economies.

Module 3

Measurement of gains from trade and their distribution; Concepts of terms of trade, their uses and limitations; Hypothesis of secular deterioration of terms of trade; its empirical relevance and policy implications for less developed countries; Trade as an engine of economic growth; Welfare implications - Empirical evidence and policy issues;

Module 4 The Theory of Interventions (Tariffs, Quotas and non-tariff barriers); Economic effects of tariffs and quotas on national income, output, employment, terms of trade, income distribution; Balance of payments on trading partners both in partial and general equilibrium analysis.

The political economy of non-tariff barriers and their implications; nominal, effective and optimum rates of tariffs - their measurement, impact and welfare implications; Trade under imperfectly competitive market.

Outcome: By completing this course, the students would be able to identify the basic difference between inter-regional and international trade, understand how international trade has helped countries to acquire goods at cheaper cost and explain it through the various international trade theories. They can explain how restrictions to international trade would limit a nation in the services and goods produced within its territories and at the same time explain that a rise in international trade is essential for the growth of globalization. They would be able to understand the importance of maintaining equilibrium in the balance of payments and suggest suitable measures to correct disequilibrium as well. They would be aware of the changes in the composition as well as direction of foreign trade after international trade and know the causes and effects of deficits in the balance of payments, measures adopted to correct the deficits and identify the need for having trade reforms.

Reference:

- Bhagwati J (1981) International Trade Selected Readings, Cambridge, University Press Massachusetts.
- Carbough, R.J. (1999) International Economics, International Thompson Publishing, New York...
- Chacholiades, M. (1990) International Trade: Theory and policy McGraw Hill, Kpgakusha, Japan.
- Dana, M.S. (2000) International Economics: Study, Guide and Work Book, RoutledgePublishishers, London.
- Dunn, R, M and H. Mutti (2000) International Economics, Routledge, London.
- Kenen, P.B. (1994), the International Economy, Cambridge University Press, London.
- Kindleberger C.P. (1973) International Economics, R.D. Irwin, Homewood, Homewood.
- King, P.G. (1995) International Economics and International Economic Policy; a Reader McGraw Hill International, Singapore.
- Krugman, P.R. and M.Obstfeld (1994) International Economics: Theory and Policy, Glenview, Foresman.
- Salvatore, D. (1997) International Economics, Prentice Hall, Upper Saddle River, N.J. New York.
- Soderston, Bo. (1991) International Economics, the Macmillan Press, London.

ELECTIVE-1

(ANY ONE OUT OF DEC 304 (a) or (b))

DEC – 304 (a) ECONOMETRICS –I

Credit: 05

Objectives:

- To have a deeper understanding of econometrics tools and its application.
- To learn model construction and estimation, with applications in consumer and producer theory.
- To gain insights into the relationship between econometric estimation and diagnostic testing.

Module 1

Nature, meaning and scope of econometrics; Simple and general linear regression model - Assumptions, Estimation (through OLS approach) and properties of estimators; Gauss-Markov theorem;

Module 2

Standard Errors of regression coefficients, Concepts and derivation of R^2 and adj R^2 , Prediction, Normality assumption, Statistical inference, Maximum likelihood estimation; Three variable linear regression model- OLS estimators and their properties, adj R^2 , Inferences. Concept and analysis of variance approach and its applications in regression analysis;

Module 3

Problems in Regression Analysis: Multicollinearity- sources, effects, detection and solution; Heteroscedasticity- tests, consequences, solution; Autocorrelation- sources, consequences, remedies. Estimation of non-linear equations - parabolic, exponential, geometric, hyperbolic, modified exponential; Gompertz and logistic functions.

Module 4

Problems of specification error and errors of measurement, Dummy variable technique - Testing structural stability of regression models comparing two regressions, interaction effects, seasonal analysis, piecewise linear regression, Use of dummy variables, regression with dummy dependent variables; The LPM, Logit, Probit and Tobit models.

Outcome: This course provides a path to follow research in general area of economics and business. Students would gain understanding of primarily about estimation and hypothesis testing. What is different and generally much more interesting and useful is that parameter being estimated and tested are not just means and variances but relationship between variables, which is much of economics and other social sciences. The course would familiarise the students to study economics with an applied approach. The enhanced skill of data analysis that is acquired by studying this paper opens the job opportunity in the field of teaching, research, corporate areas and banking sector.

References:

- Amemiya, T. (1985) Advanced Econometrics Harvard University Press, Cambridge, Mass.
- Baltagi, B. H. (1998) Econometrics Springer, New York.
- Dongherty, C, (1992) Introduction to Econometrics, Oxford University Press, New York.
- Goldberger, A. S. (1998), Introductory Econometrics, Harvard University Press, Cambridge Mass.
- Gujarati D. N. (1995), Basic Econometrics (2nd Edition) McGraw Hill, New Delhi.
- Hill R. C., E. G. William and G.G. Judge (1997) Undergraduate Econometrics, Wiley, New York.
- Kennedy P. (1998) A Guide to Econometrics (4th Edition) MIT Press, New York.
- Kmenta J. (1997), Elements of Econometrics (Reprint Edition) University of Michigan Press, New York.
- Koutsoyiannis A. (1997) Theory of Econometrics (2nd Edition) the Macmillan Press Ltd, London.
- Krishna, K. L. (Ed) (1997) Econometric Applications in India, Oxford University Press, New Delhi.
- Maddala G. S. (Ed) (1993) Econometrics Methods and Application (2vols) Aldershot U.K.
- Theil, H. (1981) Introduction to Econometrics, Prentice Hall, New Delhi.

DEC – 304 (b) FINANCIAL INSTITUTIONS AND MARKETS- I

Credit: 05

Objectives:

- To understand concepts relevant to financial markets and financial institutions.
- To learn risk and return associated with financial instruments.
- To gain knowledge on the mechanics and regulation of financial securities exchanges and determine how the value of stocks, bonds, and securities are calculated.

Module 1

Money and finance - Money and near-money - Financial intermediation and financial intermediaries - The structure of the Financial System – Financial Institutions, Financial Markets and Financial Instruments and Services - Functions of the financial sector - Equilibrium in Financial Markets

Module 2

Indicators of Financial Development - Financial System and Economic Development - Criteria to evaluate assets: Risk and financial assets, types of risk, return on assets, Risk - return trade off - Valuation of Securities.

Module 3

Theories of interest rate determination – Classical Theory, The Loanable Funds Theory, The Keynesian Theory and Modern Theory - Term Structure of Interest rates – Theories of Term Structure of Interest rates: Expectation Theory, Liquidity Premium Theory, Market Segmentation Theory; Appropriate interest rate policy.

Module 4

The Reserve Bank of India; Functions of Central Bank , The aims and objectives of the monetary policy in developed and developing countries - Instruments of monetary policy ,Recent Policy Developments Functions of Commercial Banks - Credit creation and its control; Services of banks in modern times, Development banks – types, role and functions; Investment banking and merchant banking; Financial Sector reforms in India.

Outcome: On completion of the course, students would be able to explain the broad features of Indian financial system with its components, objectives and purview. Also understand the instruments to control credit in the country. They would be able to effectively narrate the kinds and components of money with its regulatory system, be aware of the functions, objectives and limitations of commercial banks. Identify the existence and development of non-banking financial institutions; know the important role of Mutual funds, LIC, investment Companies etc. utilize and effectively participate in the development process. Understand the Conditions of financial markets and its impact in the economy. The course increases the student's employability in banking, insurance and other government and quasi government sector.

Reference:

- Bhole, L. M. (1999) Financial Institutions and Markets, Tata McGraw Hill Company Ltd. New Delhi.
- Edminister, R.O. (1986) Financial Institutions Markets and Management, McGraw Hill New York.
- Bhale, L.M. (2000), Indian Financial System, Chugh Publication, Allahabad.
- Goldsmith, R. W. (1969) Financial Structure and Development, Yale, London.
- Hanson, J. A. and S. Kathuria (Eds) (1999) India; A Financial Sector for the Twenty first Century, Oxford University Press New Delhi.
- Harker P. T. and S. A. Zenios (2000) (Eds) Performance of Financial Institutions ambridge University Press, Cambridge.
- Johnson, H. J. (1993) Financial Institutions and Markets, McGraw Hill, New York.
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- Machiraju, M. R. (1999) Indian Financial System, Vikas Publishing House, New Delhi.
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- Prasad, K. N. (2001), Development of India's Financial System, Sarup& Sons, New Delhi.
- Robinson, R. I. And D. Wrightman (1981) Financial Markets, McGraw hill, London.
- Smith, P.F. (1978) Money and Financial Intermediation: The Theory and Structure of Financial System, Prentice Hill, Englewood Cliffs, New Jersey.

OEC-305: AN OVERVIEW OF INDIAN ECONOMY
Credit: 05

Objectives:

- To know the basic characteristics of Indian economy.
- To learn different tools to measure poverty and inequality.
- To understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.

Module-1

Basic Features of Indian Economy, Demography, Poverty and Inequality, Anti- Poverty Programs, Employment and Unemployment

Module-2

Development and Growth, Human Development Index, Physical quality of Life Index, Gender Development Index, Happiness Index, Millennium Development Goals, Sustainable Development Goals

Module-3

Indian Fiscal Policy, Objectives, Tax, Expenditure, debt, budget and its components, Deficit concepts.

Module-4

Indian Monetary Policy, Objectives, Types of Monetary Policy, Instruments of Monetary Policy, Role of Reserve Bank of India

Outcome: To have knowledge about different issues related to Indian Economy like demography, poverty, inequality, employment and unemployment, monetary policy, fiscal policy and economic development. The students cutting across discipline can apply the knowledge so received in the field of competitive examination, research and policy analysis.

Reference:

- Ahluwalia, I.J. and I.M.D, Little (Eds) (1999), India's „Economic Reforms and Development (Essay in Honour of Manmohan Singh Oxford University Press, New Delhi.
- Bardhan P.K. (9th Edition) (1999) the Political Economy of Development in India, Oxford University Press, New Delhi.
- Bawa, R.S. And P.S. Raikhy (Ed) (1997) Structural Changes in Indian Economy, Guru Nanak Dev University Press, Amritsar.
- Brahmamnda P.R. and V.R Panchmukhi (Eds) (2001) Development Experience in the Indian Economy: Inter State Perspectives. Bookwell Delhi.
- Chakravarty. S. (1987) Development Planning The Indian Experience, Oxford University Press, New Delhi.
- Dantwala M L. (1996) Dilemmas of Growth the Indian Experience sage publication New Delhi.
- Joshi, V. and I.M.D. Little (1999) India: Macro Economics and Political Economy, 1964-1991, Oxford University Press, New Delhi
- Parikh K.S. (1999) India Development Report-1999-2000, Oxford University Press, New Delhi
- Reserve Bank of India, Report on Currency and Finance (Annual)
- Sandesara, J.C. (1992), Industrial policy and Planning 1947.-1991: Tendencies, Interpretations and Issues, Sage Publications, New Delhi.

SEMESTER-IV
CC – 401 INDUSTRIAL ECONOMICS
Credit: 05

Objectives:

- To provide students with the analytical skills required for understanding problems in Indian industries.
- To understand about sources of nature, climate for the industrial growth, supplies for production etc.
- To learn about various sources of industrial finance.

Module 1

Concept and organization of a firm- ownership, control and objectives of the firm, active and passive behaviour of the firm; Market structure: Sellers concentration; Product differentiation; Entry conditions;

Industrial Efficiency: Concept & Measurement; Size & Efficiency, Profitability & Stability; Theories of Industrial location – Weber and Sargent Florence.

Module 2

Pricing Decisions: Pricing in practice & Pricing in public enterprise. Role and types of institutional finance – IDBI, IFCI, SFCs, SIDC, Commercial Banks; Financial statement – Balance sheet, profit and loss account, assessment of financial soundness; Ratio analysis.

Module 3

Classification of industries; Industrial policy in India – Role of Public and Private sectors; Recent trends in Indian Industrial growth; MNCs and transfer of technology; Liberalization and privatization; Regional industrial growth in India; Industrial economic concentration and remedial measures; Issues in industrial proliferation and environmental preservation; pollution control policies.

Module 4

Industrial Labour: Structure of industrial labour; Employment dimensions of Indian industry; Industrial legislations; Industrial relations; Exit policy and social security; Wages and problem of bonus- labour market reforms.

Outcome: The course will make the students able enough to analyse the basic functioning of industries, the institutions financing them and the effectiveness of different industrial policies in India. It will also enable them to find out the reasons behind industrial economic concentration and suggest remedial measures. They can better analyse the issues relating to industrial proliferation and environmental preservation, pollution control policies. The course enables them to get jobs in different industries and corporate sector.

Reference:

- Industrial Growth in India: I. J. Ahluwalia: Oxford University Press: 1995
- Industrial Economics : R. R. Barthwal: Wiley Eastern : 1985
- Industrial Economy of India : B. Desai: Himalaya Publishing House: 1999
- An Introduction to Industrial Economics: P. J. Divine and R. M. Jones et al; George Allen and Unwin: 1976
- Industrial Economics – Theory and Evidence: D. Hay and d. J. Morris: oxford University Press: 1979

To carry out case studies addressing different socio economic issues.

CC – 402 ECONOMICS OF GROWTH AND DEVELOPMENT – II

Credit: 05

Objectives:

- To learn different theories of economic development.
- To understanding the importance of technology for society and economic growth.
- To learn different policies for economic growth and development.

Module 1

Approaches to development: Partial theories of growth and development - vicious circle of poverty, circular causation, unlimited supply of labour, big push, balanced growth, unbalanced growth, critical minimum effort thesis, low-equilibrium trap; Dualism -technical, behavioural and social; Ranis and Fei model; Dependence theory of development; Structural view of development.

Module 2

Sectoral aspects of Development: Role of agriculture in economic development; Efficiency and productivity in agriculture, New technology and sustainable agriculture; Globalisation and agricultural growth; rationale and pattern of industrialisation in developing countries The choice of technique and appropriate technology and employment; Terms of trade between agriculture and industry; Infrastructure and its importance; Labour markets and their functioning in developing countries.

Module 3

Export-led growth; Dual gap analysis; Balance of payments; Tariffs and effective protection; post-GATT international economic order; WTO and developing countries. External resources - FDI, aid vs. trade, Technology inflow; MNC activity in developing countries; Borrowings - Domestic and external; Burden of borrowing - IMF and World Bank policies in developing countries.

Module 4

Macroeconomic Policies and Development: Role of monetary and fiscal policies in developing countries - savings, inflation and growth - Empirical evidence Allocation of Resources: Need for investment criteria in developing countries - present vs. future, Alternative investment criteria; Cost-benefit analysis, Shadow prices, Project evaluation and UNIDO guidelines.

Outcomes: Students would be acquainted with the various perspectives of economic growth and development and its relevance. Students would have knowledge about the nature and classical theories of development. Students would be able to apply economic theories and concepts to contemporary social issues, as well as formulation and analysis of policy and recognize the role of ethical values in economic decisions. Students would learn the key tools to analyse agricultural economies, with an eye towards understanding a wide array of impacts, from agricultural policies to trade and climate change and what the role agriculture and industry have in economic development.

References:

- Adelman, I. (1961), Theories of Economic Growth and Development Stanford University Press, Stanford.
- Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics vol.3 Elsevier, Amsterdam.
- Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.
- Chenery, H.B. et.al (Eds) (1974) Redistribution with Growth Oxford University Press Oxford.
- Sankar, U. (Ed) (2001), Environmental Economics, Oxford University Press, New Delhi.
- Chenery, H. and T.N. Srinivasan (Eds) (1989), Handbook of Development Economics, Vols 1 & 2 Elsevier, Amsterdam.
- Dasgupta, P. (1993), an Enquiry into Well-being and Destitution, Clarendon Press, Oxford.
- Ghatak, S. (1986), an Introduction to Development Economics, Allen and Unwin, London.
- Gillis, M.D.H Perkins, M. Romer and D.R Snodgrass (1992), Economics of Development (3rd Edition), W.W. Norton, New York.
- Gimmell, N (1987), Surveys in Development Economics, Blackwell, Oxford.
- Higgins, B (1959), Economics Development, W.W. Norton, New York.
- Hogendrn, (1996), Economic Development, Addison, Wesley, New York.
- Kahkonon, S. and M. Olson (2000), a New Institutional Approach to Economic Development Vistaar.

- Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York.
- Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition) Oxford University Press, New Delhi.
- Myint, H. (1965), the Economics of Underdeveloped Countries, Preager, New York.
- Myint, H. (1971), Economic Theory and Underdeveloped Countries, Oxford University Press, New York.
- Todaro, M P (1996), (6th Edition), Economic Development, Longman, London.
- Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U. K.

CC – 403 INTERNATIONAL TRADE AND FINANCE – II

Credit: 05

Objectives:

- To identify and analyse problems in the field of trade and finance, and to develop solutions.
- To learn economic forums and co-operations for enhancement of international trade
- To discuss different trade barriers for development international trade and policies for trade enhancement.

Module 1

Meaning and components of balance of payments; Equilibrium and disequilibrium in the balance of payments; The process of adjustment under systems of gold standard, fixed exchange rates and flexible exchange rates; Expenditure-reducing and expenditure-switching policies and direct controls for adjustment; Policies for achieving internal and external equilibrium simultaneously under alternative exchange rate regimes

Module 2

A critical review of the monetary approach to the theory of balance of payments adjustment; Foreign trade multiplier with and without foreign repercussions and determination of national income and output; Relative merits and demerits of fixed and flexible exchange rates in the context of growth and development in developing countries.

Module 3

Forms of economic co-operation; reforms for the emergence of trading blocs at the global level; Static and Dynamic effects of a customs union and free trade areas; Rationale and economic progress of SAARC/SAPTA and ASEAN regions; Problems and prospects of forming a customs union in the Asian region; Regionalism (EU, NAFTA); Multilateralism and WTO; Conditionality clause of IMF

Module 4

Trade problems and trade policies in India during the last five decades; recent changes in the direction and composition of trade and their implications; Rationale and impact of trade reforms since 1991 on balance of payments, employment and growth; Problems of India's international debt; Working and regulations of MNCs in India; Instruments of export promotion and recent import and export policies and agenda for future.

Outcome: Students would know the country's position regarding international trade, payments and foreign exchange. The students would learn the methods regarding improvement in terms of trade, international debt and balance of payments positions and adjustments. Students would know about the policies regarding increase in exports, to deal with international institutions and to maintain relation with other countries. Since globalization and international relations can increase the rate of growth and solve domestic problems like inflation, unemployment and value of currency etc.

Reference:

- Bhagwati J (1981) International Trade Selected Readings, Cambridge, University Press Massachusetts.
- Carbough, R.J. (1999) International Economics, International Thompson Publishing, New York..
- Chacholiades, M. (1990) International Trade: Theory and policy McGraw Hill, Kpgakusha, Japan.
- Dana, M.S. (2000) International Economics: Study, Guide and Work Book, RoutledgePublishishers, London.
- Dunn, R, M and H. Mutti (2000) International Economics, Routledge, London.
- Kenen, P.B. (1994), the International Economy, Cambridge University Press, London.
- Kindleberger C.P. (1973) International Economics, R.D. Irwin, Homewood, Homewood.
- King, P.G. (1995) International Economics and International Economic Policy; a Reader McGraw Hill International, Singapore.
- Krugman, P.R. and M.Obstfeld (1994) International Economics: Theory and Policy, Glenview, Foresman.
- Salvatore, D. (1997) International Economics, Prentice Hall, Upper Saddle River, N.J. New York.
- Soderston, Bo. (1991) International Economics, the Macmillan Press, London.

ELECTIVE - (ANY ONE)
DEC – 404 (a) ECONOMETRICS-II

Credit: 05

Objectives:

- To learn how econometric methods are used to estimate causal relationships from observational data.
- To identify and estimate macroeconomic variables in economics and other social sciences.
- To formulate simple research questions and carry out independent analyses in order to answer those.
- To learn econometric softwares specifically Eviews and STATA for practical implementation of the methods learned in class.

Module 1

Autoregressive and distributed lag models - Koyak model, Partial adjustment model, adaptive expectations; Instrumental variables; Problem of auto-correlation - Application; Almon approach to distributed-lag models; Durbin h-test Error correlation mechanism, Causality test, Granger test and Sim's test.

Module 2

Introduction and examples; The simultaneous equation bias and inconsistency of OLS estimators; The identification problem; Rules of identification - order and rank conditions; Methods of estimating simultaneous equation system; Recursive methods and OLS; Indirect least squares (ILS); 2SLS, 3SLS and ML methods - applications.

Module 3

Time Series Analysis: Stationary, unit roots, co-integration - spurious regression, Dicky-Fuller test, Engle-Granger test, Random walk model, Forecasting with ARIMA modelling; Box-Jenkins methodology; Vector autoregression; Problems with VAR modelling - Applications; Time varying parameters and Kalman filter.

Module-4

Panel Data Techniques: Panel data techniques - random coefficients model; Fix effects model; Random effect model; Multivariate Analysis: Multivariate probability distribution, marginal and conditional probability distribution, multivariate normal distribution and its properties; Hotelling T-scale; Discriminant analysis.

Outcome: Completing this course, the students would be able to use different econometric models in their research to analyse various types of data. It will also enable them to understand the simultaneous equation bias and inconsistency of OLS estimators, Indirect least squares (ILS); 2SLS, 3SLS and ML methods and its applications. The enhanced skill of data analysis that is acquired by studying this paper opens the job opportunity in the field of teaching, research, corporate areas and banking sector.

References:

- Amemiya, T. (1985) Advanced Econometrics Harvard University Press, Cambridge, Mass.
- Baltagi, B. H. (1998) Econometrics Springer, New York.
- Dongherty, C. (1992) Introduction to Econometrics, Oxford University Press, New York.
- Goldberger, A. S. (1998), Introductory Econometrics, Harvard University Press, Cambridge Mass.
- Gujarati D. N. (1995), Basic Econometrics (2nd Edition) McGraw Hill, New Delhi.
- Kennedy P. (1998) A Guide to Econometrics (4th Edition) MIT Press, New York.
- Kmenta J. (1997), Elements of Econometrics (Reprint Edition) University of Michigan Press, New York.
- Koutsoyiannis A. (1997) Theory of Econometrics (2nd Edition) The Macmillan Press Ltd, London.
- Krishna, K. L. (Ed) (1997) Econometric Applications in India, Oxford University Press, New Delhi.
- Maddala G. S. (Ed) (1993) Econometrics Methods and Application (2vols) Aldershot U.K.
- Theil, H. (1981) Introduction to Econometrics, Prentice Hall, New Delhi.
- Brooks, C. (2014) Introductory Econometrics for Finance, 4th Edition.

DEC – 404 (b) FINANCIAL INSTITUTIONS AND MARKETS-II

Credit: 05

Objectives:

- To understand concepts relevant to different markets and financial institutions.
- To gain knowledge on the mechanics and regulation of national and international organizations.
- To understand the functions and trading of stocks, bonds, and securities in exchanges and how that are regulated.

Module 1

Functions and Importance of Money Market and Capital Market ; Characteristics of Developed and Underdeveloped Money Market; Difference and similarities between Money Market and Capital Market; Call money market, Treasury bill market,; Commercial bill market including commercial paper and certificate of deposits; Discount market - Government securities market

Module 2

Primary and secondary market for securities; Markets for derivatives; SEBI: its Genesis, organization, objectives and functions, IRDA and its objectives and regulations in insurance markets; IRDA Guidelines for licensing Insurance Agents

Module 3

Nature, organization and participants – Structure of Foreign Exchange Markets - devaluation, and depreciation - International Capital Flows, forms and volume - Rise and fall of Brettonwood Institutions - International liquidity - Reforms in international monetary system for developing countries

Module 4

Lending operation of World Bank and its affiliates - Working of IDA and IFC, The Theory of optimum currency areas - Growth of regional financial institutions, Asian Development Bank and its lending activities; Asian Development Bank and India; Euro-dollar and Euro-currency markets:

Outcome: Students would have knowledge regarding money market, capital market, stock exchange .They would be able to understand the relationship between financial development and economic development. They would have knowledge about controller of financial system, e.g. RBI, SEBI, IRDA and lending operation of World Bank and its affiliates, growth Of regional financial institutions. The basic understanding of the functioning of the financial institutions markets enhances their employability in financial sector and enables them to apply for jobs in government and non-government institutions.

References:

- Bhole, L. M. (1999) Financial Institutions and Markets, Tata McGraw Hill Company Ltd. New Delhi.
- Edminister, R.O.(1986) Financial Institutions Markets and Management, McGraw Hill New York.
- Bhale, L.M. (2000), Indian Financial System, Chugh Publication, Allahabad.
- Goldsmith, R. W. (1969) Financial Structure and Development, Yale, London.
- Hanson, J. A. and S. Kathuria (Eds) (1999) India; A Financial Sector for the Twenty First Century, Oxford University Press New Delhi.
- Harker P. T. and S. A. Zenios (2000) (Eds) Performance of Financial Institutions Cambridge University Press, Cambridge.
- Johnson, H. J. (1993) Financial Institutions and Markets, McGraw Hill, New York.
- Khan M. Y. (1996) Indian Financial System Tata McGraw Hill, New Delhi.
- Machiraju, M. R. (1999) Indian Financial System, Vikas Publishing House, New Delhi.
- Ohlson, J.A (1987) the Theory of Financial Markets and Institution, North Holland, Amsterdam.
- Prasad, K. N. (2001), Development of India's Financial System, Sarup& Sons, New Delhi.
- Robinson, R. I. And D. Wrightman (1981) Financial Markets, McGraw hill, London.
- Smith, P.F. (1978) Money and Financial Intermediation: The Theory and Structure of Financial System, Prentice Hill, Englewood Cliffs, New Jersey.

CC - 405 PROJECT WORK / DISSERTATION

Credit: 05

Objectives:

- To use acquired knowledge in studying various societal issues.
- To suggest policy measures for solution to societal problems.

Outcomes: The purpose of this course is to gain and to understand the existing research, debates relevant to a particular topic and area of the study. It helps the students to learn the way to present the knowledge in the form of a report. It promotes involvement of the students either individually or in a team work and encourages them to carry out case studies addressing different socio economic issues.

Field Visit: Socio economic study of Rural Community.

**PG DEPARTMENT OF PUBLIC ADMINISTRATION
MPC AUTONOMOUS COLLEGE, TAKHATPUR, BARIPADA**



**CURRICULUM FRAMEWORK
FOR
M.A. PROGRAMME
IN
PUBLIC ADMINISTRATION**

BASED ON CBCS PATTERN

With effect from 2023-2024

PG DEPARTMENT OF PUBLIC ADMINISTRATION

MPC AUTONOMOUS COLLEGE, TAKHATPUR, BARIPADA

COURSE STRUCTURE FOR P.G. PROGRAMME IN PUBLIC ADMINISTRATION

AS PER CBCS

With effect from 2023-2024

FIRST SEMESTER

Sub	Course Code	Name of the Paper	Credit	Maximum Marks		Total Marks
				Semester –End	Mid-Sem	
Pub.Adm	CC-101	Principle of Public Administration	5	80	20	100
	CC-102	Indian Administration	5	80	20	100
	CC-103	Classical Administrative Thinkers	5	80	20	100
	CC-104	Public Personnel Administration	5	80	20	100
	CC-105	Rural Local Governance	5	80	20	100
		Total	25	400	100	500

SECOND SEMESTER

Sub	Course Code	Name of the Paper	Credit	Maximum Marks		Total Marks
				Semester –End	Mid-Sem	
Pub.Adm	CC-201	Recent Trends in Public Administration	5	80	20	100
	CC-202	Comparative Public Administration	5	80	20	100
	CC-203	Modern Administrative Thinkers	5	80	20	100
	CC-204	Organisational Behaviour and Management Process	5	80	20	100
	CC-205	State, Society and Public Administration	5	80	20	100
		Total	25	400	100	500

THIRD SEMESTER

Sub	Course Code	Name of the Paper	Credit	Maximum Marks		Total Marks
				Semester –End	Mid-Sem	
Pub.Adm	CC-301	Public Policy	5	80	20	100
	CC-302	Development Administration	5	80	20	100

	CC-303	Urban Local Governance	5	80	20	100
	CC-304	Research Methodology	5	80	20	100
	OEC-305 <i>Open Elective</i>	Technology and Governance	5	100	--	100
		Total	25	400	100	500

FOURTH SEMESTER

Sub	Course Code	Name of the Paper	Credit	Maximum Marks		Total Marks
				Semester –End	Mid-Sem	
Pub.Adm	CC-401	Issues in Public Administration	5	80	20	100
	CC-402	Ethics and Governance in Public Administration	5	80	20	100
	EC-403 A or	Human Resource Management	5	80	20	100
	EC-403 B or	Social Welfare Administration				
	EC-403 C or	Disaster Management				
	EC-403 D	Development and Governance				
	EC-404 A or	Public System Management	5	80	20	100
	EC-404 B or	Financial Administration				
	EC-404 C or	Tribal Administration				
	EC-404 D or	State Administration in India				
	CC-405	Project /Dissertation	5	100	--	100
		Total	25	420	80	500

SYLLABUS

M.A. PUBLIC ADMINISTRATION CHOICE BASED CREDIT SYSTEM (CBCS)

CC-101 : PRINCIPLE OF PUBLIC ADMINISTRATION

(5 Credits-100 Marks)

Objective: This paper aims to make student aware about the different theoretical perspectives on public administration and to help the students to develop a scientific temperaments in studying and understanding administration of a state

Outcome: This paper enables students to use appropriate theoretical lens to analyse different administrative issues. It will also help them to identify and compare the major perspectives in public administrative; recognise how each approach views administration and administrative behaviour.

Unit-I

- 1.1 Public Administration : Meaning, Nature, Scope and Importance, Evolution and Developments in Public Administration
- 1.2 Public and Private Administration
- 1.3 Role of Public Administration in Developing and Developed countries

Unit-II

- 2.1 Principles of Public Administration: Hierarchy, Span of Control, Unity of Command, Delegation, Co-ordination
- 2.2 Delegated Legislation, Administrative Adjudication

Unit-III

- 3.1 Development and Growth of Administrative Theories
- 3.2 Scientific Management Approach
- 3.3 Administrative Management Approach

Unit-IV

- 4.1 Organizational Theory of Bureaucracy, Critique of Weber's bureaucracy
- 4.2 Human Relations Theory

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Avasthi and Maheswari, "Public Administration", Agra, Laxmi Narayan Agarwal,1988.
2. Mohit Bhattacharya "Public Administration", World Press (Second Edition, 1991)
3. B.L. Fadia and Kuldeep Fadia, "Public Administration: Administrative Theories and Concepts", Agra, Sahitya Bhawan, 2014.
4. Rumki Basu, (2004) "Public Administration: Concepts and Theories" New Delhi, Sterling Publishers,
5. Bidyut Chakravorty (2013). "*Public Administration*", sage , New Delhi.
6. L. D. White (1948) Introduction of the study of Public Administration, New Delhi.

Objective: Modern Indian administration initiates its journey through legacy of British colonialism. In fact there has been a wider acknowledgement that the practices of Indian administration date back to Kautilya's era. Hence the paper seeks to introduce to students the historical roots of Indian administration and its relationship with accountability, welfare and well being of the society. Secondly it deals with how the commencement of modern bureaucracy and its intersection with political structure has to be analyzed.

Outcome: The study of Indian Administration would enable students to identify the historical roots of modern Indian bureaucracy and the complexities associated with its functioning as an independent organ of the government.

UNIT- I

1.1 Evolution of Indian Administration : Ancient period, Medieval period, Modern Period up to 1947

1.2 Salient Features of Indian Constitution, Preamble

1.3 Federalism, Centre – State Relations (Administrative Legislative and Financial)

UNIT- II

2.1 Union Administration: President, Prime Minister, Parliament

2.2 Cabinet Secretariat, Prime Minister's Office, Judiciary

UNIT- III

3.1 State Administration: Governor, Chief Minister, State Legislature

3.2 Chief Secretary, District Collector and Emerging Role

UNIT-IV

4.1 Institutional Arrangement: Niti Aayog, NDC, Election Commission

4.2 Administrative Reform Commission

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Hoshiar Singh and Pankaj Singh, "Indian Administration", Delhi, Pearson, 2011
2. B.L. Fadia and Kuldeep Fadia, "Indian Administration" Agra, Sahitya Bhawan, 2014
3. D.D. Basu, "Introduction to the constitution of India" New Delhi, Prentice Hall of India, 2014
4. S.R. Maheswari, "Indian Administration", New Delhi, Orient Longman, 2011.
5. S.Choudhury, M.Khosla & P.B. Mehta, 2016, (Eds.), Oxford Handbook of Indian Constitution, Oxford University Press
6. P. Mahapatra, 2015, "An Introduction to Indian Administration:Central,State &Local", Gyanjug Publications
7. Bidyut Chakrabarty & R.K.Pandey,2015, Indian Government & Politics, Sage

CC-103 : CLASSICAL ADMINISTRATIVE THINKERS

(5 Credits-100 Marks)

Objective: There has been a consensus among scholars that the modern theoretical foundation of administrative knowledge got its genesis from Weberian conception of Bureaucracy. However, in subsequent years concern arises that mere focus on Law as the sole basis of Public Administration fails to address the efficiency of bureaucracy. In order to make bureaucracy efficient in ensuring service to the society begets it scientific enquiry through Wilsonian Paradigm. In further years it has opened up new philosophical debate on where the actual domain of public administration to be located? In this regard the paper introduces different classical and contemporary thinkers and their ideas to students.

Outcome: Understanding the ideas of Classical Administrative Thinkers provides space to the students distinguishing between legal norms adopted over efficiency attributes of bureaucracy. It also adapts them rationalizing scientific enquiry in the broader sphere of philosophical debates encapsulating Public Administration as a separate discipline.

UNIT-I

- 1.1 Kautilya
- 1.2 Woodrow Wilson
- 1.3 F. W. Taylor

UNIT-II

- 2.1 Henri Fayol
- 2.2 Gullick and Urwick,

UNIT-III

- 3.1 Karl Marx
- 3.2 Max Weber

UNIT-IV

- 4.1 Elton Mayo
- 4.2 Mary Parker Follet

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. D. Ravindra Prasad, V.S. Prasad, P. Satyanarayan, Y. Pardhasarathi, "Administrative Thinkers", New Delhi, Sterling Publishers, 2014.
2. Shriram Maheswari, "Administrative Thinkers", Delhi, Macmillan, 2003.
3. R.K. Sapru, "Administrative Theories and Management Thought", New Delhi, PHI Learning Private Limited, 2013.
4. Bidyut Chakravorty, "Public Administration in a Globalized World", New Delhi, Sage Pub.

Objective: This has been a universal fact that human resource is the foundation to institute any kind of organization. In fact in cases of public personnel though legality became the base to hold authority but their role assumed to serve the moral concern of society. In this context the knowledge on Public Personnel Administration in India requires to be relevant. Here the students need to be aware on the concept and its philosophical ground to study civil service system in India.

Outcome: Useful outcomes of learning Public personnel Administration capacitates students framing philosophical grounds and rationale for civil services system and their personal attributes holding any capacity to deliver better results with a motive of welfare.

UNIT-I

- 1.1 Public Personnel Administration: Concept and Objective of Public Personnel Administration
- 1.2 Scope and Significance of Public Personnel Administration

UNIT-II

- 2.1 Union Public Service Commission
- 2.2 State Public Service Commission
- 2.3 Staff Selection Commission

UNIT-III

- 3.1 Civil Services in India: Recruitment, Training, Promotion, Classification
- 3.2 Civil Services in India: Classification, Code of Conduct, Discipline, Performance Appraisal, Morale
- 3.3 Good Governance Initiatives

UNIT-IV

- 4.1 All India Services, Central Services
- 4.2 Employer-Employee Relationship, Civil Service neutrally

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Rajesh K. Jha (ed), "Public Personnel Administration", New Delhi, 2012
2. Bidyut Chakraborty and Mohit Bhattacharya (ed), "Public Administration – A Reader", New Delhi, Oxford, 2003.
3. K. Bata Dey, "Personnel Administration in India: Retrospective Issues, Prospective Thought", New Delhi, Uppal, 1991.
4. S.L. Goel, Public Personnel Administration, New Delhi, Sterling, 1984.
5. R.D Aggarwal (2015), Dynamics of Personnel Management in India, Tata McGraw Hill Publishing Company, New Delhi
6. Bata K. De (1991), Personnel Administration in India: Retrospective Issues, Prospective Thought, Uppal publications, New Delhi.
7. W. Procter Arthuer (2017), Principles of Public Personnel Administration, Forgotten Books, London.

Objectives: This paper deals with the wider debate on compatibility of democracy and development. It intends to initiate discussion among students about the mechanisms and methods on how the benefit of development to be shared by the local structure of our society, as there has been a general concern that democracy is subject to elite capture.

Outcome: The study of governance for both Rural and Urban encourages students modulating local structure of society dispelling the concern of democracy subjected to elite capture.

UNIT-I

- 1.1 Rationale and Necessity of Local Government, Local Government & Local Governance
- 1.2 Democratic Decentralization, Decentralized Planning, History of Local Governance

UNIT-II

- 2.1 Features of Rural Indian Society & Polity, Evolution of Rural Local Self Government
- 2.2 73rd Constitutional Amendment Act, PESA Act

UNIT-III

- 3.1 Structure and Process of Rural Local Bodies
- 3.2 Women participation in Panchayat Administration

UNIT-IV

- 4.1 Rural Poverty Alleviation Programmes , NRHM,NRLM
- 4.2 State Control over Rural Local Bodies, Problem and Prospects of Rural Local Self-government
- 4.3 Localisation, New Localism.

Note: Semester End Examination-80 Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Bidyut Chakravarty, "Public Administration: in a Globalized world", New Delhi, Sage, 2014
2. Bijoyini Mohanty, "Glimpses of Local Governance", New Delhi, Kunal Books, 2012.
3. Anirban Kashyap, "Panchayati Raj, Views of Founding Fathers and Recommendations of different committees, Lancer Books, 1989.
4. M. Venkatrangaya and M. Pattabhiram, "Local Government in India", New Delhi, Allied Publishers, 1969
5. S.R. Maheswari, "Local Government in India", Agra, Lakshmi Narain Agarwal, 1984.
6. Kuldeep Mathur (2013), Panchayati Raj, Oxford, New Delhi.
7. Manoj Sharma (2004), Local Government - Rural and Urban, Anmol Publications Pvt. Ltd, New Delhi.
8. B.N. Ahuja, S.S. Chhabra (1993), Panchayati Raj, Surjeet Publications, New Delhi

CC-201 : RECENT TRENDS IN PUBLIC ADMINISTRATION

(5 Credits-100 Marks)

Objective: This paper aims to make student aware about the recent trends in administrative theory. The manifestation of such trend is not only to be discussed in the context of structure of public organisation but also through the contemporary approaches and practices.

Outcome: Students would be able to understand how behavioural and post behavioural approaches are critical to recent administrative practices. They would also aware about the distinction between different forms of organisations and how their functioning overlaps each other's domain in social reality.

UNIT-I

- 1.1 Nature & typologies of Organizations: Formal & Informal ,Line & Staff Structure of Organizations-Centralization & Decentralization
- 1.2 Processes of Organization, Departmentalization

UNIT-II

- 2.1 Behavioural Approach,- Chris Argyris, Herbert Simon, New Public Administration
- 2.2 Systems Approach- Closed and Open system, Chester Bernard

UNIT-III

- 3.1 Public Choice Approach, New Public Management
- 3.2 Good Governance. Public Service Approach, Feminist Approach

UNIT-IV

- 4.1 Administrative Practices-Governance, Regulatory Governance, Citizen Charter
- 4.2 Public Private Partnership, State of Administrative Theory in 21st Century

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Alaka Dhameja (Ed), "Contemporary Debates in Public Administration", New Delhi, 2003.
2. Arun Kumar Behera, "Public Administration: Theory and Practice", Delhi, Pearson, 2012
3. Bidyut Chakravarty, "Public Administration: in a Globalized world", New Delhi, Sage, 2014
- 4 . A. R. Tyagi, Public Administration

Objectives: This paper intends to develop a comparative assessment on bureaucracy and its relationship with other organs under a constitutional government. The content has been formed to aware students about the critical perspectives on how conceptualization of modern administration and its applicability in different states and societies meted with variations.

Outcome: Students would be able to get a comprehensive understanding on comparative context on functioning of executive in different societies. This paper would equip students with critical observation of concept and practice from divergent frames of reference.

UNIT-I

- 1.1 Concept, Nature, Scope and Approaches to the Study of Comparative Public Administration, Emerging Trends in Comparative Public Administration.
- 1.2 Theories and Models of Comparative Public Administration: Fred Riggs and Ferrel Heady.

UNIT-II

- 2.1 Structural and functional Dynamics of Executive Systems of U.K. and U.S.A.
- 2.2 Structural and functional Aspects of British Parliament and U.S.A. Congress
- 2.3 Comparative study of British Judiciary and American Judiciary

UNIT-III

- 3.1 Citizen and Administration: Concept and perspectives
- 3.2 Comparative study of various mechanisms for Redressal of citizens' grievances in U.K. & U.S.A.

UNIT-IV

- 4.1 Control Mechanisms over Administration in U.K.
- 4.2 Control Mechanisms over Administration in U.S.A.

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Ramesh k. Arora," Comparative Public Administration", 1996.
2. J. A. Chandler (ed), "Comparative Public Administration", Routledge Publications, 2010
3. Sabine Kuhalmann, "Introduction to Comparative Public Administration", Edward Elgar Publishing, 2014.
4. K.K. Ghai, "Major Governments, Political System of U.K., USA, Switzerland, France and China",New Delhi, Kalyani Publishers, 2013.
5. J. A. Chandler (ed), "Comparative Public Administration", Routledge Publications, 2010
6. Sabir Kuhalmann, Introduction to Comparative Public Administration, Edward Elgar Publishing, 2014.
7. Nirmood Rapheli (ed), Reading in Comparative Public Administration, 1970
8. Vishnoo Bhagwan, Vidya Bhushan (1998), World Constitutions, Sterling Publisher Private Limited.
9. U.N. Gupta (2009), Select World Constitutions, Atlantic Publishers & Distributors, New Delhi

CC-203 : MODERN ADMINISTRATIVE THINKERS

(5 Credits-100 Marks)

Objective : This paper aims to provide how great minds have contributed towards the development of public administration as a discipline. It deals with contemporary philosophical debate on where the actual domain of public administration to be located. In this regard the paper introduces different classical and contemporary thinkers and their ideas to students.

Outcome : Students would get perspective of different thinkers to analyse various issues of public administration.

UNIT-I

- 1.1 Chris Argyris
- 1.2 Chester Barnard
- 1.3 Herbert Simon

UNIT-II

- 2.1 Abraham Maslow
- 2.2 Douglas McGregor
- 2.3 Frederick Herzberg

UNIT-III

- 3.1 M.K. Gandhi
- 3.2 Michael Foucault

UNIT-IV

- 4.1 Peter Drucker
- 4.2 Rensis Likert
- 4.3 Y. Dror

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. D.Ravindra Prasad, V.S. Prasad, P. Satyanarayan, Y. Pardhasarathi, “Administrative Thinkers”, New Delhi, Sterling Publishers, 2014.
2. Shriram Maheswari, “Administrative Thinkers”, Delhi, Macmillan, 2003.
3. R.K. Sapru, “Administrative Theories and Management Thought”, New Delhi, P HI Learning Private Limited, 2013.
4. Bidyut Chakrabarty, “Public Administration in a Globalized World”, New Delhi, Sage

CC-204 : ORGANISATIONAL BEHAVIOUR AND MANAGEMENT PROCESS

(5 Credits-100 Marks)

Objective: Organizational behaviour is a discipline, which provided the organizational behaviour list to find out some ways and means to establish acceptable behaviour. It is a study and application of knowledge about human behaviour in organization as it relates to other system elements, such as structure, technology and external social system. Therefore, it is relevant to introduce this paper in the Masters programme in Public Administration.

Outcome: Study of the acceptable human behaviour and hyphenating organization into the behaviour management spectre provides enhanced application capacity to the students.

UNIT-I

- 1.1 Organizational Behaviour- Meaning, Nature and Challenges
- 1.2 Organizational Structure and Design, Concept of Learning Organisation

UNIT-II

- 2.1 Organizational Culture- Old & New, Organizational Development
- 2.2 Concept of Organizational Change

UNIT-III

- 3.1 Management- Meaning, Functions and Challenges of Managers
- 3.2 Motivation, Leadership, Communication.

UNIT-IV

- 4.1 Conflict Management, Total Quality Management
- 4.2 Strategic Management and Management of Change.

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Aswathappa K, (2016), Organisational Behaviour, Himalaya Publishing House, Mumbai.
2. Niranjana Pani, "Management Concepts: Organizational Behaviour, Human Resource Management" New Delhi, Kunal Books,2009.
3. S.S. Khanka "Organisation Behaviour", New Delhi, S. Chand and Company Ltd., 2011.
4. Fred Luthans, "Organisational Behaviour", New York, M.C. Graw- Hill, 2000. 4. David J Cherrington, "Organisational Behaviour", Allyn and Bacon, Boston, 1989
5. L.M. Prasad (2014), Organisational Behaviour, Sultan Chand & Sons, New Delhi.
6. S.S. Khanka (2011), Organisation Behaviour, S. Chand and Company Ltd., New Delhi
7. Kimberly D. Elsbach, Anna Kayes & D. Chris Kayes (2016), Contemporary Organizational Behavior, Pearson, Delhi.

CC-205 : STATE, SOCIETY AND PUBLIC ADMINISTRATION

(5 Credits-100 Marks)

Objective: This course takes a holistic view of public administration and its juxtaposition with state on the one hand and society on the other. It introduces the students the pertinent points of convergence between society, politics and administration.

Outcome: The points of convergence between politics, society and administration adapt students dealing with trends of administrative theory and enhanced understanding of multi-disciplinarity.

UNIT-I

- 1.1 Nature of State, Changing nature of Indian state
- 1.2 Relationship between state, society and public Administration

UNIT-II

- 2.1 Perspectives of State: Liberal and Marxist
- 2.2 Neo-liberal and Gandhian Perspective

UNIT-III

- 3.1 Challenges to Traditional Bureaucratic Paradigm
- 3.2 Contemporary context of Indian bureaucracy

UNIT-IV

- 4.1 Civil Society Organizations: Gramscian Ideas
- 4.2 Growing role of civil society organizations, Civil Society partnerships in Governance

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Bidyut Chakrabarty & Mohit Bhattacharya (Eds), 2003, Public Administration: A Reader, Oxford University Press, New Delhi
2. Alaka Dhameja (Ed), "Contemporary Debates in Public Administration", New Delhi, 2003.
3. Ramesh K. Arora(Eds.), 2004, Public Administration: Fresh Perspectives, Aalekh Publishers, Jaipur
4. Bidyut Chakravorty, "Public Administration in a Globalized World", New Delhi, Sage

CC-301 : PUBLIC POLICY

(5 Credits-100 Marks)

Objective: Democratic governance and socio-economic development depend on effective public policy process. Therefore, this course makes the students aware of the theoretical perspectives on public policy and changing techniques of monitoring and implementation of public policy.

Outcome : This paper equip students to monitor and self-examine both the nature and efficiency of public policy.

UNIT-I

- 1.1 Public Policy-Meaning, Types and Significance
- 1.2 Approaches to Public Policy

UNIT-II

- 2.1 Concept of Policy Making
- 2.2 Institutional Arrangement for Policy Making

UNIT-III

- 3.1 Policy Implementation
- 3.2 Policy Monitoring and Evaluation

UNIT-IV

- 4.1 Policy Analysis
- 4.2 Recent Policies : New Economic Policy, National Health Policy, New Education Policy
- 4.3 Problem and Prospects of Public Policy

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. R.K. Saprú, Public Policy “Public Policy: Foundation,Implementation and evaluation”, New Delhi, Sterling,2012.
2. R.K. Saprú, “Public Policy: Art and Craft of Policy Analysis” Delhi, PHI Learning, 2013
3. Y. Dror, “Public Policy Making Re-examined”, New Jersey, Transaction Publishers, 1989.
4. Aaron Wildavsky, “The Art and craft of Policy Analysis”,

CC-302 : DEVELOPMENT ADMINISTRATION

(5 Credits-100 Marks)

Objective: This course gives an idea about the diverse perspectives on Development Administration. It examines various development strategies and how Indian bureaucracy is facilitator towards it.

Outcome: Students would be able to identify the context of Development in Indian society as a developing state. In this process, they will also get an understanding on how Indian bureaucracy has acted both as a facilitator and collaborator with other agencies in shaping the development goals of India.

UNIT-I

- 1.1 Development Administration: Conceptual Analysis, Development Administration and Administrative Development
- 1.2 Features of Developed and Developing Countries
- 1.3 Structural Adjustment Programme, Changing profile of Development Administration.

UNIT-III

- 2.1 Various Development Strategies, Mixed Economy Model,
- 2.2 Goals of Development

UNIT-III

- 3.1 Decentralization and Development, Planning : National and State and District
- 3.2 Mechanisms of Development Administration in India : Self-Help Group (SHG)
- 3.3 Displacement for Development and Rehabilitation Policy

UNIT-IV

- 4.1 Bureaucracy and Development
- 4.2 Role of NGOs, Cooperatives and Specialized Development Agencies

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. R.K. Saprú, "Development Administration", New Delhi, Sterling Publishers, 2014.
2. Mohit Bhattacharya, "Development Administration", Kolkata, World Press, 1979.
3. V.A. Pai Panandikar (ed) "Development Administration in India", New Delhi, Macmillan, 1974.
4. S.A. Palekar, "Development Administration

Objectives: The course is designed to provide the student a basic understanding of urban development in India. This paper deals with the wider debate on urban development. It intends to initiate discussion among students about the mechanisms and methods on how the benefit of development to be shared by the local structure of our society.

Outcome: Students would get a detail understanding on structure and process of local governance in the urban sphere. Further, it would be beneficial to develop their skill in addressing complexities with different issues of urban governance.

UNIT-I

- 1.1 Growth of Urbanization and its consequences, Rural-Urban Fringe, Rural-urban migration
- 1.2 Features of Urban India: Evolution of Urban Local Self Government, 74th Constitutional Amendment Act

UNIT-II

- 2.1 Structure and Process of Urban Local Bodies, Sources of Finance of ULBs
- 2.2 State Election Commission, State Finance Commission

UNIT-III

- 3.1 Urban Planning and Policies, Urban Transport, JNURUM, Urban Land Use & Housing, Development of sub-urban areas
- 3.2 Slum Management, Urban Sanitation, Specialized Development Agencies

UNIT-IV

- 4.1 Urban Poverty Alleviation Programmes , Urban Public Health
- 4.2 State Control over Urban Local Bodies, Problem and Prospects of Urban Local Self-government

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Bijoyini Mohanty, "Glimpses of Local Governance", New Delhi, Kunal Books, 2012.
2. Anirban Kashyap, "Panchayati Raj, Views of Founding Fathers and Recommendations of different committees, Lancer
3. M. Venkatranga and M. Patil, "Local Government in India", New Delhi, Allied Publishers, 1969.
4. S.R. Maheswari, "Local Government in India", Agra, Lakshmi Narain Agarwal, 1984.
5. Manoj Sharma (2004), Local Government - Rural and Urban, Anmol Publications Pvt. Ltd, New Delhi.
6. Sharda Chopra (2005), Dynamics of Municipal Administration, Surjeet Publications, Delhi.

Objective: This Course offers familiarity with research tools and techniques in Social Sciences Research.

Outcome: Students would be able to identify relevant research problems along with hypotheses formation. They will be also get an understanding on how to apply different research tools to collect and analyse data.

UNIT-I

- 1.1 Meaning, Objective, Importance and Features of Research in Social Science
- 1.2 Scientific Method: Characteristics, Process and Limitation

UNIT-II

- 2.1 Research Problem, Hypotheses
- 2.2 Research Design

UNIT-III

- 3.1 Sampling: Process and Types, Scaling
- 3.2 Data Collection: Questionnaire, Observation Survey and Schedule Methods

UNIT-IV

- 4.1 Data Analysis Techniques
- 4.2 Report writing. Different styles of writing

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings :

1. Coughlan M., Cronin P. and Ryan F. (2007). Step-by-step guide to critiquing research. Part 1 quantitative research. British journal of Nursing 16 (11).
2. Creswell, JW. (1998). Qualitative Inquiry and Research Design Choosing Among Five Traditions. Thousand Oaks, CA: Sage Publications.
3. Crotty, M. (1998). The Foundations of social research: Meaning and perspective in the research process. London: Sage.
4. Kothari C., R. (2004). Research Methodology: Methods and Techniques. New Delhi. New Age International (P) Limited, Publishers.
5. Denzin, NK. (1978). Sociological Methods. New York: McGraw-Hill
6. Upagade Vijay and Shende Arvind(2015), "Research Methodology", S.Chand Publishing, New Delhi

Objective: E-Governance has been developed as an instrument of ‘Good Governance’. This course has been designed to educate the students in the role ICT in developing administration and citizen services.

Outcome: Students would be able to get a practical understanding on how application of technology is essential to ensure public service accountability.

UNIT-I

- 1.1 E-Governance: Concept and significance
- 1.2 Information and Communication Technology: Concepts and Components

UNIT-II

- 2.1 ICT: Roles and Applications
- 2.2 Role of ICT in Administration and Rural Development

UNIT-III

- 3.1 E-Learning: Role of ICT in Education and Training
- 3.2 Delivery of Citizen Services: Role of ICT,
- 3.3 Role of ICT in Local Governance

UNIT-IV

- 4.1 Information Policy: RTI Act 2005, E-Commerce
- 4.2 ICT implementation in Governance: Issues and Challenges, Citizen-Government Interface

Note: Semester End Examination-100Marks(3 hours)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings :

1. Budhiraja, Renu (2001) ‘Electronic Governance — A Key Issue in the 21st Century’, Ministry of Information Technology, India.
2. Government of India (2001a) E-Governance. Ministry of Personnel, Public Grievances and Pensions.
3. Bhatnagar, Subhash, 2004, E-government: From Vision to Implementation A Practical Guide with Case Studies, Sage, New Delhi
4. Gupta, MP, Prabhat, Kumar, and Jaijit, Bhattacharya, 2004, Government Online Opportunities and Challenges, Tata McGraw-Hill Publishing Company Ltd., New Delhi
5. Heeks, Richard (1998a) ‘Information Age Reform of the Public Sector: The Potential and Problems of IT for India’, Working Paper No. 6. Manchester: Institute for Development Policy and Management, University of Manchester.
6. Jaju, Sanjay, E-Governance Projects and Experiments at National level, in E-Governance

Objective: The course is designed to provide the student a basic understanding about issues of public administration. It initiates the discussion on changing role of Non-Governmental Organizations and bureaucracy in administration. It also discuss the concept of good governance and grievances redress institutions.

Outcome: Students would get an idea on various issues of public administration. The relevance of the concepts, institutions and acts will help the student of public administration in the contemporary administrative set up.

UNIT-I

- 1.1 Bureaucracy: Theories ,Types and Role
- 1.2 Relationship between Permanent and Political Executive
- 1.3 Generalists Vs Specialist Debate
- 1.4 Politicization of Higher Civil Services in India – Neutrality Vs Commitment

UNIT-II

- 2.1 Line and Staff Agencies and their role
- 2.2 Types of Organisation: Formal and Informal, Forms of Organisation-Department , Corporation and Board
- 2.3 Control over Financial Administration

UNIT-III

- 3.1 Delegated Legislation , Administrative Tribunals
- 3.2 Right to Information(RTI)
- 3.3 Grievance Redress Institutions- Ombudsman, Lokpal and Lokayukta

UNIT-IV

- 4.1 Good Governance; Administrative Corruption
- 4.2 E-Governance-Impact, Benefits and Limitations
- 4.3 People's Participation in Administration

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Reading

1. Recent Trends in Public Administration- P.R. Dubasi
2. Ideas and Issues in Indian Administration – H. Rai & S.P. Singh
3. E-Government- S. Bhatnagar
4. Bureaucracy and Politics in India – C.P.Bhambri
5. Indian Public Administration- R.K.Arora
6. Public Administration- Rumki Basu
7. Administrative Theories and Management Thought- R.K.Sapru
8. Public Administration-Today and Tomorrow- Arun Kumar
9. Public Administration- M.P.Sharma & B.L.Sadana
10. Contemporary Issues in Indian Indian Administration- R.B.Jain
11. The Role of Generalists and Specialists in Publiv Administration- Raj Swami

CC-402 : ETHICS AND GOVERNANCE IN PUBLIC ADMINISTRATION

(05 Credits-100 Marks)

Objective: Ethics and values has key role in smooth functioning of public administration system. It is recognised as a preferred way of measuring how public institutions conduct public affairs and manage public resources based on the needs of a specific town, state or country. However, administering accountability in governance and ethical practices are a difficult task. These specific factors influence ethics and good governance in public administrative systems. This paper provides the understanding about the above complexities.

Outcome: Students would get an idea on different levels of ethics in governance and how they are dependent on the social, economic, political, cultural, legal-judicial and historical contexts of the country.

UNIT-I

- 1.1 Introduction to Ethics in Public Administration: Meaning and Significance, Evolution of Ethical Concerns in Administration
- 1.2 Issue of Ethics: Foci and Concerns, Code of Administrative Ethics, Dimensions of Ethics and key concepts, Future Perspective of ethics in Public Administration

UNIT-II

- 2.1 Administrative theories of ethics and governance
- 2.2 Governance and ethics in Public services, Philosophical Ethics

UNIT-III

- 3.1 Understanding Governance and ethics of Governance, Models of Ethical Decision Makings, Principles of Ethical Governance
- 3.2 Nature of work ethics. Public/ Civil Services values and ethics in Public Administration. Ethical Issues in Public services, Committees on Ethics in Administration

UNIT-IV

- 4.1 Code of Conduct, Code of Ethics, Importance and Rules of Code of Conduct and integrity for Public/ Civil Services
- 4.2 Social Responsibility and Good Governance in Public Administration.

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Patrick J. Sheeran, Ethics in Public Administration: A Philosophical Approach
2. Dean Geuras ,Practical Ethics in Public Administration
3. Dhameja, Alka, Role of Ethics in Public Administration
4. Eric K. Austin, Administrative Theory of Ethics
5. Ramesh K Arora, Ethics, Integrity and Values in Public Service
6. M.E. Sharpe, Ethics and integrity in Public Administration: Concepts and Cases
7. Terry Cooper, Handbook of Administrative Ethics
8. Mohammed Ali Rafath, Bureaucracy and Politics: Growth of Service Jurisprudence in All India Services

CC-403A : HUMAN RESOURCE MANAGEMENT

(05 Credits-100 Marks)

Objective: Any Organisation has three important resources- men, material and money. Out of these the human resource occupies a pivotal position as it is the human resource which makes an efficient use of money and material. Therefore, it was thought important to introduce this paper in the Masters Programme in Public Administration.

Outcome : Study of the acceptable human behaviour and hyphenating organization into the behaviour management spectre provides enhanced application capacity to the students.

UNIT-I

- 1.1 Human Resource Management – Meaning, Nature and Evolution
- 1.2 Functions of HRM and New Trends in HRM.

UNIT-II

- 2.1 Human Resource Planning, Job Analysis, Work Design
- 2.2 Recruitment, Promotion and Transfer

UNIT-III

- 3.1 Concept of HRD, Training and Development
- 3.2 Career Planning and Career Development .

UNIT-IV

- 4.1 Performance Appraisal, Compensation, Employment Relations – Collective Bargaining.
- 4.2 Human Resource Information System (HRIS), Human Resource Audit (HRA)
- 4.3 Future of HRM, Issue of HRM- Stress Management

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Niranjana Pani, "Management Concepts, Organisational Behaviour, Human Resource Management", New Delhi, Kunal Books, 2009.
2. T.N. Chhabra, "Human Resource Management; Concepts and Issues", Delhi, Dhanpatirao and Co. 2012.
3. K.B. Aswathappa, "Personnel and Human Resource Management," Tata Mc. Graw Publishing House, 2003
4. P. Subha Rao "Essentials of Human Resource Management and Industrial Relation", Himalaya Publishers, Mumbai, 2010

CC-403B : SOCIAL WELFARE ADMINISTRATION

(05 Credits-100 Marks)

Objectives: Welfare is an essential objective of Public Administration in a democratic state. With an expansion of citizenship rights, the role of bureaucracy has also been transformed. Now one of its primary objective is to deliver welfare with an effective manner. Thus, the paper aims to provide both the conceptual idea on welfare and how it has been applied in case of social groups and different sectors.

Outcome : Students would get an idea about how welfare initiatives has been taken both in a targeted and universal manner. In this process, they also get the knowledge about the role of various institutions.

UNIT-I

- 1.1 Social Welfare: Meaning and Significance
- 1.2 Concept of a Welfare State and Welfare Administration , Social Welfare and Social Justice
- 1.3 Constitutional Provision and Institutions in India; Central Social Welfare Board, State Social welfare Board, Human Rights Commission, Issues and Trends

UNIT-II

- 2.1 Social Welfare Policies ,Social Planning and Social Policy- Formulation and Implementation of Social Policy- Social Welfare
- 2.2 Five year Plans in India, Public Relation Activities and Social Welfare Agencies

UNIT-III

- 3.1 Universal Welfare and Social Sectors: Health and Education
- 3.2 Role of NGOs/Voluntary Organisations for Social Welfare

UNIT-IV

- 4.1 Welfare Policies for Scheduled Caste, Scheduled Tribes, Other Backward Classes, Minority and Women
- 4.2 Reservation in Services: Merits and Demerits

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Nirja Jayal, Welfare and Indian States, EPW
2. Nirja Jayal, Citizenship and Its Discontents, OUP, 2015
3. Anil Saxena, 2006, Encyclopaedia of social welfare, Vol., Anmol Publishers, New Delhi
4. Dr. Ravi Prakash Yadav, 2010, Social Welfare Practices Wilensky, H. 1975 The Welfare State and Inequality. Berkeley: University of California Press
5. Iversen, T. and Cusack, T. 2000. 'The causes of welfare state expansion'. World Politics, 52
6. Esping-Andersen, G. 1990 The Three Worlds of Welfare Capitalism. Cambridge: Polity Press
7. Vidhu Verma.2012. Non-discrimination and Equity in India: Contesting Social Justice, Rutledge: London. Boundaries of
8. Gurpreet Mahajan, Difference and Social Justice in India, Oxford University Press.

CC-403C : DISASTER MANAGEMENT

(05 Credits-100 Marks)

Objective: India is amongst the nation's most vulnerable to natural hazards. The basic responsibility for undertaking rescue, relief and rehabilitation measures in the event of natural disasters is that of the state government concerned. Therefore, this course has been designed to educate the students in disaster management administration.

Outcome: Students would get a basic understanding on how knowledge on disaster management is critical towards the possibility of a sustainable society.

UNIT-I

- 1.1 Disaster and its type: Flood, Draught, Cyclone,
- 1.2 Geographical Disaster: Earthquake, Landslide, Avalanches, Volcanic Eruptions,
- 1.3 Climatic Disaster-Heat and Cold Wave, Climate Change, Global Warming, Sea level Rise, Ozone Depletion

UNIT-III

- 2.1 Disaster Management Cycle, Disaster Management –Recent trends
- 2.2 Vulnerability analysis and Risk assessment

UNIT-III

- 3.1 Disaster Preparedness- The Indian Context, Disaster Prevention
- 3.2 Disaster Mitigation- Institutional Arrangements at National level and State levels.

UNIT-IV

- 4.1 Disaster Management Strategies with reference to Odisha, Role of ODRAF
- 4.2 Disaster Response: Rehabilitation, Reconstruction and Recovery

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings :

1. Albala-Bertrand, J.M. 1993. The Political Economy of Large Natural Disasters. Oxford: Clarendon Press.
2. Alexander, D.A. 1993. Natural Disasters. New York: Chapman and Hall.
3. Alexander, D.A. 2000. Confronting Catastrophe. New York: Oxford University Press.
4. Anderson, J.E. 1994. Public Policy making: An Introduction. Boston, MA: Houghton Mifflin Company.
5. Anderson, W. 1998. A history of social science earthquake research: From Alaska to Kobe. In The EERI Golden Anniversary Volume 1948-1998. Oakland, CA, Earthquake Engineering Research Institute. Pp. 29-33.

CC-403D : DEVELOPMENT AND GOVERNANCE

(05 Credits-100 Marks)

Objective : This paper aims to discuss the association between development and governance.

Outcome : Students would get a critical perspective on how governance matters in development. They would be able to identify key parameters of good governance and different e-governance initiatives.

UNIT-I

- 1.1 Development and Governance: Concepts and Approaches
- 1.2 Development and Governance Interface and Contemporary Debates
- 1.3 Development Strategies in the era of Globalisation, Role of Civil society in Development

UNIT-II

- 2.1 Good Governance as Reform: Modern Practices, Public Service Approach and Technological Application
- 2.2 Technology and Governance and E-Governance in Global Sphere

UNIT-III

- 3.1 E-Governance : Concept, Types and Significance
- 3.2 E-Governance in Indian States: Bhumi Experiment, E SISHU.

UNIT- IV

- 4.1 Contemporary trends in Governance
- 4.2 Problems and prospects of Governance.

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Nirja Jayal and Pratap Bhanu Mehta, Oxford Companion to Politics, 2010
2. Nirja Jayal and Sudha Pai, Democratic Governance in India: Challenges of Poverty, Development and Identity, Sage Publication: New Delhi.
3. Gurpreet Mahajan, 2003. The Public and the Private: Issues of Democratic Citizenship, Sage:New Delhi.
4. Atul Kohili, Democracy and Discontent: India's Growing crisis of Governability,Princeton University.IGNOU, New Delhi, 2006
5. Stuart Corbridge, et.al. 2005. Seeing the State: Governance and Governmentality in India,Cambridge University Press: New York.

CC-404A : PUBLIC SYSTEM MANAGEMENT

(05 Credits-100 Marks)

Objective: This course introduces the student to the new paradigm of Public System Management with its design and operation of public services. This will enable the students the traditional practice of public administration and the changing discourse on development.

Outcome: Student would get an idea on operational aspect of public service system and generate an understanding on the relevance of transparency in this process.

UNIT-I

- 1.1 Public Systems Management: Concept, Nature and Scope
- 1.2 Characteristics and Distinctiveness of Public system Management

UNIT-II

- 2.1 Social & Political Context of Public system Management
- 2.2 Concept of Governance, Intergovernmental Relations in governance

UNIT-III

- 3.1 Strategic Management :Management of Information System
- 3.2 Responsiveness in Public system Management-Accountability

UNIT-IV

- 4.1 Transparency in Public System Management
- 4.2 Transparency & Right to Information: Empowerment through Networking and inter-institutional Coordination

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Bidyut Chakrabarty & Mohit Bhattacharya (Eds), 2003, Public Administration: A Reader, Oxford University Press, New Delhi
2. Alaka Dhameja (Ed), "Contemporary Debates in Public Administration", New Delhi, 2003.
3. Ramesh K. Arora(Eds.), 2004, Public Administration: Fresh Perspectives, Aalekh Publishers, Jaipur

CC-404B : FINANCIAL ADMINISTRATION

(05 Credits-100 Marks)

Objective: This paper aims to discuss various concepts, policies and institutional framework associated with financial administration in India.

Outcome: With the completion of this paper, students would have an substantive understanding on how finance as a resource support is critical to the efficacy of different policies.

UNIT-I

- 1.1 Concept of Budget, Types and Forms, Performance Budgeting, Zero Budgeting, Gender Budgeting
- 1.2 Budgetary Process in India, Budget as a political instrument.

UNIT-II

- 2.1 Monetary and Fiscal Policies; Role of Finance Ministry; RBI
- 2.2 Parliamentary control over public expenditure, Resource Mobilization and Division of Resources, Tax Reforms

UNIT-III

- 3.1 Fiscal Federalism : Nature and Issues
- 3.2 Role of Finance Commission

UNIT-IV

- 4.1 Financial Accountability; Audits and Accounts
- 4.2 Social Audit, Gender Auditing.

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings:

1. Kausik Basu, Oxford Companion to Economics
2. Pranab Bardhan, Development and Democracy in India Dutta and Sundaram, Indian Economy
3. Rumki Basu, An Introduction to Public Administration
4. S.L. Goel, (1999), "Financial Administration and Management", New Delhi, Sterling Publishers Private Limited
5. Sanjeev Kumar Mahajan (2014), Financial Administration in India, PHI Learning.
6. Chelliah, Raja J. Fiscal Policy in Underdeveloped Countries: With Special Reference to India. Routledge, 2011.
7. Sahib Singh & Swinder Singh, Public Personnel and Financial Administration, New Academic Publishing Co., Jalandhar.
8. Paswan, Pooja. Financial Administration of India. New Delhi: Sage Publications, 2019.
9. Sarapa, A. Public Finance in India. New Delhi: Kanishka, 2004

CC-404C : TRIBAL ADMINISTRATION

(05 Credits-100 Marks)

Objective: This paper has the core objective to discuss different administrative strategies undertaken by the government towards tribal development in India.

Outcome: Student would get an idea who could be identifies as tribe in India. They will also get an understanding on how various development initiatives has been taken by the government for tribal welfare.

UNIT-I

- 1.1 Tribal Development Strategies: Phases of Isolation, Assimilation and Integration
- 1.2 Tribal Development through Five Year Plans:- ITDP, MADA

UNIT-II

- 2.1 Constitutional Provisions for Schedule Tribes
- 2.2 Tribal Development Programmes: Its Implementation, Problem and Challenges

UNIT-III

- 3.1 Issues of Tribal Development : Displacement, Rehabilitation and resettlement; Empowerment of Tribal women
- 3.2 Migration: Issues and challenges, Trafficking of tribal Girl child, Climate change and its impact on tribal livelihood,

UNIT- IV

- 4.1 Tribal Development Institutions: Tribal Development Commissioner, TDCCOL, LAMP, THRTI.
- 4.2 Role of NGOs in Tribal Development, Need for Tribal Participation in Development and Inclusive Growth, Role of Tribal in Forest Development and Afforestation

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Readings :

1. Singh AK 1999. Tribal Development in India. 2nd Edition. New Delhi: Classical Publishing Co.
2. Singh Sakendra Prasad 1983. Development programmes for the tribals: Need for new approach. The Indian Journal of Public Administration, 29(4): 898-906.
3. Sreekumar SS 2001. Tribal development administration in the islands. The Indian Journal of Public Administration, 47(4): 715-726.

CC-404D : STATE ADMINISTRATION IN INDIA

(05 Credits-100 Marks)

Objective: The course is designed to provide the student a basic understanding of State Administration in India, the dynamics of relations between Union and the States.

Outcome: Students will be able to understand the functioning of administrative institutions in district as well as state. It will also help the students to understand the structural and functional dynamics of state judicial system.

UNIT-I

- 1.1 State Executive-Powers and Functions of Governor, Chief Minister and Council of Ministers
- 1.2 Structural and functional dynamics of State Vidhan Sabha and Vidhan Parishad, Women's participation in Legislative politics

UNIT –II

- 2.1 Structure, Functions and powers of High Court
- 2.2 Composition and functions of subordinate judiciary, Types of subordinate courts

UNIT -III

- 3.1 Relations between the Union and the States, Centre- State Relations: Administrative, Legislative and Financial Relations
- 3.2 Sarkaria Commission Recommendations

UNIT-IV

- 4.1 Structure and Functions of Administration in Odisha: Role and functions of Chief Secretary, Board of Revenue, Revenue Divisional Commissioners
- 4.2 District Administration- Composition and Changing Role of Collector Composition and Role of Block Development Officer in Block Administration

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam):Long answer type questions with alternative from each Unit

Suggested Books:

1. B.L. Fadia and Kuldeep Fadia (2014), Indian Administration, Sahitya Bhawan, Agra.
2. Bidyut Chakrabarty and Prakash Chand (2016), Indian Administration: Evolution and Practice, SAGE Publications, New Delhi.
3. Hoshiar Singh and Pankaj Singh (2011), Indian Administration, Pearson, Delhi.
4. S.R. Maheswari (2011), Indian Administration, New Delhi, Orient Longman.
5. Pratap Bhanu Mehta & Nirja Gopal Jayal (2011), The Oxford Companion to Politics in India, Oxford University Press, New Delhi.
6. Padmalaya Mahapatra (2013), Indian Administration: Central – State – District, Gyanayuga, Bhubaneswar

CC-405 : PROJECT WORK/ DISSERTATION

(05 Credits-100 Marks)

1. Every student shall have to do project work/dissertation under supervision of a teacher (preferably regular) of the department concerned.
2. The dissertation topic and the name of the Supervisor shall be assigned to the student by the Head of the Department in consultation with other teachers of the Department during the 3rd Semester to enable the students to plan and carry out the work and complete the same before the commencement of 4th Semester Examination.
3. The distribution of Marks is as follow: 75 Marks for dissertation Write-up or Project work and 25 marks for presentation and viva voce. However, consolidated marks out of 100 shall be reflected in the mark sheet and that is to be submitted to the COE accordingly.
4. The dissertation must be typed in one side of A-4 size papers and the model thesis/write up shall not be less than 5000 words.
5. The thesis/write up shall be based on the basic standard steps of Research Methodology.
6. The date of the presentation /viva voce shall be notified by the HOD in consultation with COE.

SYLLABUS
MASTER OF ARTS IN EDUCATION
Academic Session-2023-24



DEPARTMENT OF EDUCATION
M.P.C AUTONOMOUS COLLEGE
TAKHATPUR, BARIPADA

SYLLABUS FOR 2-YEAR M.A. EDUCATION PROGRAMME, 2023-2024 (onwards)

Context: The Master of Arts in Education is a two-year programme, without any option of intermediate exit before completing the 2-years study. It aims at preparing teacher for 10+2 and Graduation and Post Graduation in Education different colleges/ universities of the country. The programme thus subsumes all curricular elements of education comprehensively Programme Outcomes: The programme is designed to provide opportunities for the professional to extend and deepen their horizontal of knowledge and understanding of education and teacher education, develop research capacities, specialized in select areas etc. The course includes both critical comprehension of theory as well as hands-on and field based reflective practices, skills and competences. The Syllabus for M.A. Education programme is designed to attain the following broad objectives.

After the completion of the course, the students shall:

- ❖ Understand the central concepts, tools of inquiry, and structures of the disciplines and can create learning experiences that make these aspects of subject matter meaningful.
- ❖ Understand how children learn and develop how they differ in their approaches to learning and create learning opportunities that are adapted to diverse learners and learning contexts.
- ❖ Plan learning experiences that are based on learner's existing proficiency, interests, experiences including misconceptions and errors and understand how students come to view, develop and make sense of subject matter contained in the learning experiences.
- ❖ Use knowledge of effective verbal, nonverbal and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom, evaluate and ensure the continuous intellectual, social and physical development of the learner.
- ❖ Develop sensibilities to identify problems for further probing and abilities to conduct pure, applied and/or action research on the identified issues concerning educational theory and practices.
- ❖ Develop self-identity as a faculty through continuous experiences that continually evaluate the effects of his/her choices and actions.

Programme Specific Outcomes

In terms of programme specific context of M.A. Education, the outcomes are as follows.

1. To build perspective and understanding of concepts, theories, ideas and practices across various fields of Education.
2. To understand the historical, political and economical aspects of education.
3. To provide research related experiences with the competency to independently develop dissertation and research work.
4. To interpret the schools of philosophy and their educational significance.
5. To get an insight into various educational policies and practices.
6. To enable proper understanding and critical perspective about specialized areas of Education

Modes of Transaction:

With a view to move away from theoretical discourses and lectures, the student- teacher is required to be engaged in various kinds of learning experience. This programme intends to provide him/her

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with the specific engagements that are spelt out under each course. However, the nature of engagement of the perspective Teacher-Educator will be of the following kinds:

- **Lecture-cum-Discussion Session:** The teacher educator provides the perspective Teacher-Educator a platform to review their experiences, helps them to develop insights into the disciplinary knowledge base and to relate them to the school realities.
- **Focused Reading and Reflection:** Perspective Educator would be led to focus readings on various themes with questions inviting reflections either individually or in small groups.
- **Observation-Documentation-Analysis:** Simulated and real school/ community experiences would be arranged for the student to observe, document in the form of record/ journal/ diary and analyse with an intention to revisit their own understandings or develop new insights.
- **Seminar Presentations:** Students will undertake thematic/topical study, prepare write-up and make seminar presentation followed by open-house discussion with a view to enhance their knowledge base and repertoire of skills in presentation.
- **Library Work:** On specific theme/issue/problems relating to school education and teacher education or on any other curricular issues, the prospective teacher educators would be asked to consult library, collect information and prepare their individual write-ups for seminar presentation and discussion.
- **Projects:** Course related projects having contemporary concern shall be assigned to individual prospective educator to be completed within a specified period of time with a report.
- **Collaborative Presentations:** The prospective educators in groups along with their allotted mentors shall work collaboratively on a theme and prepare the report for seminar presentation.
- **Institution Visit & Sharing of Experience:** As per the requirements of the students' holistic development, students are required to visit different state/national/international institutions for sharing of experience.

Attendance: Minimum attendance shall be 75% for the course.

SEMESTER WISE COURSE AND MARKS

SEMESTER-I

SL NO	PAPER CODE	NAME OF THE PAPER	CREDIT	FULL MARKS		
				INTERNAL	EXTERNAL	TOTAL
1	CC-101	Philosophical Perspectives in Education	5	20	80	100
2	CC-102	Sociological Perspectives in Education	5	20	80	100
3	CC-103	Advanced Educational Psychology	5	20	80	100
4	CC-104	Teacher Education	5	20	80	100
5	CC-105	Practicum: Book Review/Journal Review	5	20	80	100
TOTAL			25			500

SEMESTER-II

SL NO	PAPER CODE	NAME OF THE PAPER	CREDIT	FULL MARKS		
				INTERNAL	EXTERNAL	TOTAL
1	CC-201	Curriculum studies	5	20	80	100
2	CC-202	Historical, Political and Economical Perspectives of Education	5	20	80	100
3	CC-203	Educational Technology	5	20	80	100
4	CC-204	Inclusive Education	5	20	80	100
5	CC-205	Practicum: Visit to a seat of Learning and Report Preparation	5	20	80	100
TOTAL			25			500

SEMESTER-III

SL NO	PAPER CODE	NAME OF THE PAPER	CREDIT	FULL MARKS		
				INTERNAL	EXTERNAL	TOTAL
1	CC-301	Educational management, Administration and Leadership	5	20	80	100
2	CC-302	Advanced Educational Statistics	5	20	80	100
3	CC-303	Seminar and Term Paper	5	20	80	100
4	CC-304	Research methodology	5	20	80	100
5	OEC-305	Guidance and Counselling	5	20	80	100
TOTAL			25			500

SEMESTER-IV

SL NO	PAPER CODE	NAME OF THE PAPER	CREDIT	FULL MARKS		
				INTERNAL	EXTERNAL	TOTAL
1	DEC-401	Pedagogy, Andragogy, and Assessment	5	20	80	100
2	DEC-402	Emerging Issues in Education	5	20	80	100
3	CC-403	Special Paper (any one) (a) School Education (b) Higher Education	5	20	80	100
4	CC-404	Practicum- Dissertation	10		200	200
TOTAL			25			500

Semester-I

Paper: CC- 101

Credit-5

PHILOSOPHICAL PERSPECTIVES OF EDUCATION

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of this course, the students shall:

- To enable the student to understand the Philosophical origins of educational theories and Practices.
- To enable the student to develop a philosophical outlook towards educational problems.
- To understand nature and functions of education and philosophy and their relationship

DETAILS COURSE CONTENT

Unit- I: Indian School of Philosophy

- Educational Philosophy: Concept and Contribution of Sankhya, Yoga, Vedanta philosophy with special reference to Metaphysics, Epistemology and Axiology.
- Educational Philosophy: Concept and Contribution of Buddhism, Jainism and Islamic tradition with special reference to Metaphysics, Epistemology and Axiology
- Sources and methods of acquiring valid knowledge: Contemplation, Speculation, Enquiry and Analysis.

Unit- II: Contribution of Western School of Philosophy

- Concept and contribution of Realism, Naturalism, Pragmatism.
- Concept and contribution of Marxism, Existentialism
- Contribution of Western School of Philosophy to Education with special reference to information, knowledge and wisdom

Unit- III: Contribution of Philosophers

- Contribution of Indian thinkers: Swami Vivekananda, Rabindranath Tagore, Mahatma Gandhi, Aurobindo, J. Krishnamurthy,
- Contribution of western thinkers: Paulo Freire, Wollstonecraft, Nel Noddings and Savitribai Phule
- Rousseau, Aristotle & Plato – Their educational ideas and experiments, and the present relevance

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Unit- IV: Contemporary Theories of Education

- Contemporary Theories of Education: Perennialism, Essentialism.
- Contemporary Theories of education: Progressivism, Re-Constructionism
- Contemporary Theories of education: Logical Analysis and logical Positivism

COURSE OUTCOMES:

- To analyse the concept and process of getting knowledge and its related phenomena.
- To recognized and define the concept of Philosophy.
- To interpret the contribution of various Indian and western schools of Philosophy in the field of education

REFERENCES:

Aggarwal, J.C. (1993). Landmarks in the History of Modern Indian Education. Vikas Publishing House, New Delhi.

Bhat, M.S. (). Educational Sociology, APH Publications, New Delhi.

Bhatnagar, G. D. (). Education and Social Change, Minerva, Calcutta.

Broudy, H.S. (1977) Building a Philosophy of Education, New York: Krieger.

Brubacher, John, S. (). Modern Philosophies of Education, Mc. Graw Hill, New York.

Chaube, S. P.: A Philosophical and Sociological Foundation of Education, Vinod Pustak Mandir, Agra

Dewey J. (). Democracy and Education, Mc Million, New York.

Gupta, R. (2011). Philosophical, Sociological and Economic Bases of Education, Ludhiyana: London Publications.

Kneller, G. F.: Introduction to Philosophy of Education, John Milley and Sons, New York

Mathur, S.S.: Sociological Approach to Indian Education, Vinod Pustak Mandir, Agra.

Singh, B.N. (2005). Education: Social Change and Economic Development, Jaipur: RBSA Publishers.

Sodhi, T.S. &Suri, Aruna (1998). Philosophical and sociological Foundation of Education, Patiala: Bawa Publication.

Swarup Saxena, NR: Philosophical and sociological foundation of education, Surya Publication, Meerut.

Taneja, V.R. (2002). Foundation of Education, Chandigarh: Mohindra Capital Publishers.

Wingo, G. Max.: Philosophies of Education, Sterling, New Delhi.

Semester-I

Paper: CC-102

Credit-5

SOCIOLOGICAL PERSPECTIVES OF EDUCATION

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of this course, the students shall:

- To define meaning and concept of Educational Sociology.
- To understand the major concepts, and theories, in sociology and Education
- To understand the process of globalization

DETAILS COURSE CONTENT

Unit- I: Education and Society

- Education and Society: Meaning and Nature of Educational Sociology
- Approaches to Sociology of Education: Symbolic Interaction, Structural Functionalism and Conflict Theory
- Agencies of Socialization: Family, Peer group, Community, school Mass Media and its impact on education and society.

Unit- II: Social Movement and National Values

- Social Movements: Concept and Process
- Theories of Social Movements: Relative Deprivation, Resource Mobilization, Political Process Theory and New Social Movement Theory
- National values as Enshrined in the Indian Constitution- Socialism, Secularism, Justice, Liberty, Democracy, Equality, Freedom with special reference to Education

Unit- III: Education and Culture

- Concept of Culture and Multi-Culturalism, Cultural Lag
- Role of Education in Transmission of Cultural heritage.
- Social Change: Concept, Social Stratification, Education as an instrument of Social Change.

Unit- IV: Education and Democracy

- Education and Democracy
- Education for Socially and Economically disadvantaged sections of the society with special reference to SCs, STs, Women, Rural population and Minorities.
- Inclusion of education through Sarva Shiksha Abhiyan (SSA) and RTE Act, 2009.

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COURSE OUTCOMES:

- To analyse the concept and process of getting knowledge and its related phenomena.
- To recognized and define the concept of Philosophy.
- To interpret the contribution of various Indian and western schools of Philosophy in the field of education

REFERENCES:

Aggarwal, J.C. (1993). Landmarks in the History of Modern Indian Education. Vikas Publishing House, New Delhi.

Bhat, M.S. (). Educational Sociology, APH Publications, New Delhi.

Bhatnagar, G. D. (). Education and Social Change, Minerva, Calcutta.

Broudy, H.S. (1977) Building a Philosophy of Education, New York: Kringer.

Brubacher, John, S. (). Modern Philosophies of Education, Mc. Graw Hill, New York.

Kneller, G. F.: Introduction to Philosophy of Education,

John Milley and Sons, New York.

Mathur, S.S.: Sociological Approach to Indian Education, Vinod Pustak Mandir, Agra.

Singh, B.N. (2005). Education: Social Change and Economic Development, Jaipur: RBSA Publishers.

Sodhi, T.S. &Suri, Aruna (1998). Philosophical and sociological Foundation of Education, Patiala: Bawa Publication.

Swarup Saxena, NR: Philosophical and sociological foundation of education, Surya Publication, Meerut.

Taneja, V.R. (2002). Foundation of Education, Chandigarh: Mohindra Capital Publishers.

Wingo, G. Max.: Philosophies of Education, Sterling, New Delhi.

Semester-I

Paper: CC-103

Credit-5

ADVANCED EDUCATIONAL PSYCHOLOGY

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of the course, the students shall:

- Understand individual differences among learners.
- Gain knowledge of methods of Educational Psychology and recent trends.
- Understand adolescent's growth, development and their problems.
- Get acquainted with concept of learning and motivation

DETAILS COURSE CONTENT

Unit- I: School of Psychology and Learning

- Contribution to different schools of Psychology to Education: Behaviourism, Psycho-analysis and Gestalt.
- Learning: Concept and Theories; Conditioning (Classical and Operant), Ausubel's theory of advance organizer, Bruner's theory of Instruction,
- Gagne's hierarchy of learning, Bandura Social Learning theory, Vygotsky Constructivist theory with reference to their educational implication

Unit- II: Growth and Development

- Growth and Development: Concept and Principles and Types
- Individual Difference in Growth and Development- Role of Heredity and Environment
- Stages of Cognitive Development: Contribution of Piaget and Erikson

Unit- III: Personality and Intelligence

- Personality: Definitions and Theories: Freud, Carl Rogers, Gordon Allport, Max Wertheimer, Kurt Koffka.
- Intelligence: Concept, Measurement and Theories- Sternberg, Gardner, Thurstone and Guilford
- Concepts of Social Intelligence, Multiple Intelligence and Emotional Intelligence

Unit- IV: Creativity and Mental Health

- Creativity: concept, nature and developing Creativity
- Difference between Intelligence and Creativity
- Mental Health: Concept, nature, needs and Mental Hygiene

COURSE OUTCOMES:

- To analyse the learning process based on theoretical approaches of learning
- To develop critical appreciation and insight into Constructivist, Social Constructivist and Humanistic Approaches to Learning.
- To develop insight into mental Health Education and a positive attitude towards mentally ill people

REFERENCES:

- Atkinson, R.C. (1983). Introduction to Psychology. New York: Harcourt Brace Jorovich Inc.
- Chauhan, S.S.: Advanced Educational Psychology, Vikash Publishing House, New Delhi
- Dandapani, S. (2001) A Text Book of Advanced Educational Psychology. Anmol Publications Pvt. Ltd., New Delhi.
- Kuppuswamy, B: Advanced Educational Psychology, Sterling Publishers, New Delhi
- Mangal S.K. (2000). Advanced Education Psychology. New Delhi: Prentice Hall of India (P) Ltd.
- Reber, S. A., & Reber, S. E. (2001). Dictionary of Psychology (3rd ed.). Penguin.
- Santrock, W. J. (2006). Psychology Essentials 2 (Updated ed.). Tata McGraw Hill Edition.
- Sreevani, R. (2010). A Guide to Mental Health and Psychiatric Nursing (3rd ed.). Jaypee Brothers Medical Publishers.
- Woolfolk, A. (2004). Educational Psychology. Pearson Education.

Semester-I

Paper: CC-104

Credit-5

TEACHER EDUCATION

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of the course the students shall be able to:

- To enable the students to understand about the concept, aims and scope of teacher education in India with historical perspectives.
- To visualize the structure and frame work of teacher education.
- To understand the Concept, Determinants, Identification and Characteristics of teacher Effectiveness.
- To enable the students to understand the prevailing trends in teacher education and agencies to develop and implement the concerned policies, in India.
- To develop in the students an understanding about the important research findings in teacher education.

DETAILS COURSE CONTENT

Unit- I: Understanding Teacher Education

- Teacher Education: Meaning, Nature and Scope
- Teacher Education programme: Types and structure and its Vision in Curriculum Documents of NCERT and NCTE at Elementary, Secondary and Higher Secondary Levels,
- Understanding Knowledge base of Teacher Education from the view point of Schulman, Deng and Luke & Habermas

Unit- II: Pre-service Teacher Education Programme

- Pre-service teacher education: Meaning, Importance, Objectives and Modes (face to-face and distance)
- Stage specific programmes - Pre-school, Elementary and Secondary and Higher Secondary Teacher Education Programmes with reference to duration, curriculum, staffing pattern, assessment etc as per NCTE Regulations, 2014
- Components of Pre-service Teacher Education: Transactional Approaches, Expository, Collaborative and Experiential learning

Unit- III: In-service Teacher Education Programme

- In-service teacher education: Meaning, importance and objectives in the context of Continuing Professional Development (CPD)
- Purpose and Scope of In-service Teacher Education Programme
- Approaches and modes of organizing CPD: Approaches- self-study, participatory workshops, panel discussion, FGD etc.

Unit- IV: Management and Support Services

- Concept of Profession and Professionalism, Teaching as a Profession, Professional Ethics of Teachers, Personal and Contextual factors affecting Teacher Development, ICT Integration,
- Support organizations: National level - MHRD, NCERT, NUEPA, NCTE .and UGC
- Performance Appraisal of Teachers and Quality control in Teacher Education.

COURSE OUTCOMES:

On completion of the course the students shall be able to:

- Visualize the structure and frame work of teacher education.
- Understand the prevailing trends in teacher education and agencies to develop and implement the concerned policies, in India.

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Korthagen, Fred A.J.et al. (2001). Linking practice and theory: The pedagogy of realistic teacher education. New York: Lawrence Erlbaum Associates.

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NCTE (1979) Organization of core teaching programme package. New Delhi.

Semester-I

Paper: CC-105

Credit-5

PRACTICUM: BOOK REVIEW/JOURNAL REVIEW

Full Marks: 100

OBJECTIVES:

- To develop the knowledge about book and journal review
- To develop the literary skills among students

COURSE CONTENT

The students are required to review a book/journal of educational relevance under the guidance of teachers of the department. The review report will be submitted to the dept. Fifteen days before the conduct of the examination. It will be evaluated jointly by the Internal and External Examiners.

The distribution of marks shall be as follows.

Report	:	70 Marks
Viva-voce	:	30 Marks
Total	:	100 Marks

COURSE OUTCOMES:

- To analyse the content of the books and journal
- To distinguish the content of books and journal

Semester-II

Paper: CC-201

Credit-5

CURRICULUM STUDIES

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

- To develop an understanding of fundamentals of Curriculum Development
- To develop understanding of System analysis in Curriculum
- To develop the process of Curriculum Development

DETAILS COURSE CONTENT

Unit- I: Understanding Curriculum

- Curriculum: Concept, Difference between Curriculum and Syllabus
- Types and approaches of curriculum: Subject centred, activity centred, learner centred, learning-centred,
- Bases of Curriculum: Philosophical, Psychological and Sociological

Unit- II: Curriculum Development

- Determinants: Socio-Economical, political, cultural and educational
- Principles: Need-based, relevance, Flexibility, Contextuality etc.
- Process and stages: Need Identification, identification of resources and strategies, preparation, sharing and feedback, finalizing at different levels (national, state and institution)
- Issues and concerns in curriculum development: Centralized and decentralized process, plurality, political, cultural, relevance, rigidity for no-renewal

Unit- III: Models of Curriculum Development

- Tyler's Model (1949)
 - Hilda Taba Model (1962)
 - Nicholls and Nicholls Model (1972)
 - Wills and Bondi Model (1989)
- (Each model to be discussed in terms of their basic focus, structure, process and relevance)

Unit- IV: Curriculum Transaction, Evaluation and Renewal

- Curriculum Transaction: Planning, Preparation and mode of transaction.
- Evaluation: Mode (Internal and External), Periodicity (Continuous and periodic), Mechanism: Research, studies, on-site observation, FGD, online feedback.

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- Renewal: Meaning and types of Curriculum change, Factors affecting curriculum change, Approaches to curriculum change, Role of students, teachers and educational administrators in curriculum change and improvement, Scope of curriculum research and Types of Research in Curriculum Studies.

COURSE OUTCOMES:

- To analyse the role of Philosophy, Psychology, Sociology in shaping Curriculum
- To apply the Knowledge and Understanding of various Models of curriculum Design in curriculum development.
- To implement the knowledge of various Evaluation processes in Curriculum development.

REFERENCES:

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Bruner, J.S. (1966). Towards a Theory of Instruction. Cambridge: Mass, Harvard University Press.

Cropper, G.L. (1974). Instructional Strategies. Englewood Cliff, N.J.: Educational Technology Publications.

Davis, I.K. (1971). The Management of Learning. London: McGraw Hill.

Forsyth, I., Jolliffe, A. & Stevens, D. (1999): Evaluating a Course. Practical Strategies for Teachers, Lectures and Trainers. London: Kogan Page.

National Curriculum Framework (2005): New Delhi: NCERT.

Semester-II

Paper: CC-202

Credit-5

HISTORICAL, POLITICAL AND ECONOMICAL PERSPECTIVES OF EDUCATION

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

- To know the Historical Perspectives of Education at Different Levels
- To understand the Economical Perspectives of Education at Different Levels
- To understand the Political Perspectives of Education at Different Levels

DETAILS COURSE CONTENT

Unit- I: Education in India: Post- Independence Scenario

- Secondary Education Commission (1953), Kothari Education Commission (1964-66), National Policy of Education (1986,1992), National Commission on Teachers (1999),
- National Curriculum Framework 2005, National Knowledge Commission (2007), Yashpal Committee Report (2009),
- National Curriculum Framework for Teacher Education (2009), Justice Verma Committee Report (2012), National Policy on Education-2016.

Unit- II: Relationship between Policies and Education

- Linkage between Educational Policy and National Development,
- Determinants of Educational Policy and Process of Policy formulation: Analysis of the existing situation, generation of policy options, evaluation of policy options, making the policy decision, planning of policy implementation, policy impact assessment and subsequent policy cycles.

Unit- III: Economical Perspectives of Education

- Economics of Education: Concept, Cost Benefit Analysis Vs Cost Effective Analysis in Education
- Economic returns to Higher Education, Signalling Theory Vs Human Capital Theory,
- Educational Finance: Concept, Educational finance at Micro and Macro Levels, Concept of Budgeting

Unit- IV: Political Perspectives of Education

- Politics of Education: Concept, Liberal, Conservative and Critical,
- Approaches to understanding Politics: Behaviourism, Theory of Systems Analysis and Theory of Rational Choice
- Education for Political Development and Political Socialization

COURSE OUTCOMES:

- To analyse The Historical Perspectives of Education at Different Levels.
- To analyse The Economical Perspectives of Education at Different Levels.
- To analyse The Political Perspectives of Education at Different Levels.
- To Appreciate That Relevant Research Work Would Help to Achieve Efficiency and Excellence in The Educational Practices.

REFERENCES:

- Baskin, Wade. (1966). Classics in Education. Vision: Press London.
- Broudy, H.S. (1977). Building a Philosophy of Education. New York: Krieger.
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- Dupuis, A.M. (1972). Philosophy of Education in Historical Perspective. New Delhi: Thomson Press.
- Gore, M.S. (1984). Education and Modernization In India. Jaipur: Rawat Publishers.
- Kabir Humayun. (1961). Education in New India. New Delhi: Asia Publishing House.
- Kneller, George F. (1978). Foundations of Education. John Wiley and Sons.
- Mukerji S. N. (1960). Education in India To-day & Tomorrow, Baroda: Acharya Book.
- Mukherjee, S.N. (1955). History of Education in India. Baroda: Acharya Book Depot. New Delhi: National Publishing House.
- Narvane, V.S. (1978). Modern Indian Thought, New York: Orient Longmans Ltd.
- Nurullah & Naik. (1951). History of Indian Education. Bombay: Macmillan & Co.
- Panday, V.C. (2005). Value Education and Education for Human Rights. Delhi: Isha Power,
- Edmund, J. (1962). Main Currents in the History of Education, McGraw Hill Book Co. In., New York.

Semester-II

Paper: CC-203

Credit-5

EDUCATIONAL TECHNOLOGY

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of this course the students will be able to:

- Understand The Nature and Scope of Educational Technology and also About the Various Forms of Technology
- Know The Instructional Design and Modes of Development of Self -Learning Material.
- Know The Different Models of Teaching.
- Know The Recent Innovation and Future Perspectives of Educational Technology.

DETAILS COURSE CONTENT

Unit- I: Understanding Educational Technology

- Educational Technology: Concept, differentiate Educational Technology with ICT and Instructional Technology,
- Applications of Educational Technology: Formal, Non-formal (Open and Distance Learning), Informal and Inclusive education systems,
- Relationship between Learning Theories and Instructional Strategies (for large and small groups, formal and non-formal groups)

Unit- II: Systems Approach to Instructional Design

- Models of Development of Instructional Design (ADDIE, ASSURE, Dick and Carey Model Mason's),
- Gagne's Nine Events of Instruction and Five E's of Constructivism,
- Application of Computers in Education: CAI, CAL, CBT, CML, Concept, Process of preparing ODLM, Concept of e learning, Approaches to learning (Offline, Online, Synchronous, Asynchronous, Blended learning, mobile learning)

Unit- III: Trends in e-learning

- Social learning: Concept, use of web 2.0 tools for learning, social networking sites, blogs, chats, video conferencing, discussion forum,
- Open Education Resources: Creative Common, Massive Open Online Courses
- E Inclusion – Concept, Application and Ethical issues of e- learner and e-teacher

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Unit- IV: ICT in Evaluation and Management

- ICT and Evaluation: Concept and types: e-portfolio, e-rubrics,
- ICT and management: MIS system for educational management, ICT for personal management, e-mail and networking
- ICT and Research: Concept and development, Online Repositories and Online Libraries, Online survey tools.

COURSE OUTCOMES:

- Establish Relationship Between Learning Theories and Educational Technology
- Develop Basic Skills in The Production of Different Types of Instructional Material.
- Familiarize With Evaluation Techniques

REFERENCES:

- Adam, D.M. (1985): Computers and Teacher Training: A Practical guide, The Haworth Pren, Inc., N.Y.
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- James, K.L. (2003). The internet: A user's guide. New Delhi: Prentice Hall of India.
- Mohanty, L.& Vora, N (2008). ICT strategies for schools- A guide for school administrators. New Delhi: Sage Publications.

Semester-II

Paper: CC-204

Credit-5

INCLUSIVE EDUCATION

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of the course the students shall be able:

- To explain the construct of inclusive education & the progression from segregation towards valuing & appreciating diversity in inclusive education
- To enumerate the skills in adapting instructional strategies for teaching in mainstream classrooms
- To describe the inclusive pedagogical practices & its relation to good teaching;

DETAILS COURSE CONTENT

Unit- I: Understanding Special Education:

- Special Education: Concept, Importance and Objectives
- Education of Mental Retardation: Concept, Etiology and Educational programme
- Education of Orthopedically Impaired: Concept, Etiology and Educational programme

Unit- II: Education of gifted and Slow Learner

- Education of visual and hearing Impairment: Concept, Etiology and Educational programme
- Education of gifted children: Concept and Educational Programmes
- Education of Learning Disability: Concept, Etiology and educational provision

Unit- III: Fundamental of Inclusive Education

- Inclusive Education: Concept, Principles, Scope, Barriers and Importance
- Evolution of the Inclusive Education: Special, Integrated, Inclusive Education
- Legal Provisions of Inclusive Education: Persons with Disabilities Act (1995), National Policy on Person with Disabilities (2006), Rehabilitation Council of India Act (1992), Right to Person with Disabilities Act (2016). UNCRPD (2006)

Unit- IV: Planning and Management of Inclusive Education:

- Planning and Management of Inclusive Classrooms: Infrastructure, Human Resource and Instructional Practices,
- Curriculum and Curricular Adaptations for Diverse Learners, Assistive and Adaptive Technology for Diverse learners: Product (Aids and Appliances).
- Process (Individualized Education Plan, Remedial Teaching), Parent- Professional Partnership: Role of Parents, Peers, Professionals, Teachers, School

COURSE OUTCOMES:

- To explicate the National & International policies & frameworks facilitating inclusive education;
- To expound strategies for collaborative working and stakeholders support in implementing inclusive education;
- To analyse the inclusive pedagogical practices & its relation to good teaching

REFERENCES:

Ainscow, M. (1999) Understanding the development of inclusive schools. London: Falmer.

Ainscow, M., Dyson, A. and Weiner, S. (2013). From exclusion to inclusion: Ways of responding in schools to students with special educational needs. Berkshire, London: CIBT Education Trust.

Booth, Tony and Ainscow, Mel (2002). Index for inclusion: Developing learning and participation in schools. London: Centre for Studies on Inclusive Education.

Bornstein, M.H. and Lamb, M.E(1999). Developmental psychology: an advanced textbook, New Jersey: Lawrence Erlbaum Publishers

Dyson, A. and Millward, A. (2000) Schools and special needs: issues of innovation and inclusion. London: Paul Chapman.

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Heward W.L. (2000) Exceptional children: an introduction to Special Education, New Jersey: Prentice Hall.

Nind, M., Sheehy, K. and Simmons, K. (eds). Inclusive education: learners and learning contexts. London: Fulton.

Semester-II

Paper: CC-205

Credit-5

**PRACTICUM: VISIT TO A SEAT OF LEARNING AND REPORT
PREPARATION**

Full Marks: 100

COURSE OBJECTIVES:

On completion of the course the students shall be able:

- To acquaint the learner about the importance of field visit to sites of learning

ACTIVITIES:

Each student shall visit to any seats of learning according to his/her choice. The seats of learning includes: any educational institution or educational administrative office. Each student is required to collect detailed data about that institute and prepare a report on it. The evaluation shall be done by both external and internal examiners.

Distribution of marks shall be as follows:

Report	:	70 Marks
Viva-voce	:	30 Marks
Total	:	100 Marks

COURSE OUTCOMES:

At the end of the course the students will be able to:

- Organize field visits to sites of learning.
- Each student shall Generate field visit reports and present the same in the group.

Semester-III
Paper: CC-301
Credit-5
EDUCATIONAL MANAGEMENT, ADMINISTRATION AND LEADERSHIP
Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of the course the students shall be able to:

- To enable the students to understand about the concept, aims and scope of teacher education in India with historical perspectives.
- To visualize the structure and frame work of teacher education.
- To understand the Concept, Determinants, Identification and Characteristics of teacher Effectiveness.
- To enable the students to understand the prevailing trends in teacher education and agencies to develop and implement the concerned policies, in India.
- To develop in the students an understanding about the important research findings in teacher education.

DETAILS COURSE CONTENT

Unit- I: Introduction to Educational Management and Administration

- Educational Management and Administration – Meaning, Principles, Functions and importance, Institutional building, POSDCORB, CPM, PERT,
- Management as a system, SWOT analysis, Taylorism
- Administration as a process, Administration as a bureaucracy, Human relations approach to Administration, Organisational compliance, Organisational development, Organisational climate

Unit- II: Leadership in Educational Administration

- Educational Administration: Meaning, Nature and Significance
- Approaches to leadership: Trait, Transformational, Transactional, Value based, Cultural, Psychodynamic and Charismatic,
- Models of Leadership: Blake and Mouton's Managerial Grid, Fiedler's Contingency Model, Tri-dimensional Model, Hersey and Blanchard's Model, Leader-Member Exchange Theory

Unit- III: Management of Quality Education

- Concept of Quality and Quality in Education: Indian and International perspective, Evolution of Quality: Inspection, Quality Control, Quality Assurance,
- Total Quality Management (TQM), Six sigma,
- Quality Gurus: Walter Shewhart, Edward Deming, C.K Prahalad

Unit- IV: Models and Process of Educational Management

- Change Management: Meaning, Need for Planned change, Three- Step-Model of Change (Unfreezing, Moving, Refreezing), The Japanese Models of Change: Just-in Time, Poka yoke,
- Cost of Quality: Appraisal Costs, Failure costs and Preventable costs, Cost Benefit Analysis, Cost Effective Analysis,
- Indian and International Quality Assurance Agencies: Objectives, Functions, Roles and Initiatives (National Assessment Accreditation Council [NAAC], Performance Indicators, Quality Council of India [QCI], International Network for Quality Assurance Agencies in Higher Education [INQAAHE])

COURSE OUTCOMES:

On completion of the course the students shall be able to:

- Visualize the structure and frame work of teacher education.
- Understand the prevailing trends in teacher education and agencies to develop and implement the concerned policies, in India.

REFERENCES:

Korthagen, F. A.J. (2001). Linking Practice and Theory: The Pedagogy of Realistic Teacher Education. Lawrence Erlbaum Associates.

Lampert, M. (2001). Teaching problems and the problems of teaching. New Haven: Yale University Press.

Linda, D. H. & John, B. (2005): Preparing Teachers for a Changing World. Jossey-Bass, San Francisco.

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Mangala, Sheela (2000). Teacher Education: Trends & Strategies, Radha Publishing, New Delhi.

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Semester-III
Paper: CC-302
Credit-5
ADVANCED EDUCATIONAL STATISTICS
Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of this course the students shall be able to:

- Do inferential statistics for testing null hypothesis
- Use appropriate procedures to analyse data
- Demonstrate competence in the use of statistical packages for analysis of data
- Explain tool, design and procedure for collection of data
- Analyse the data descriptively
- Describe different types of variables and examine the variable relationship

DETAILS COURSE CONTENTS

Unit- I: Descriptive Statistics

- Data- Types, Sources and Graphical representation
- Scales of Measurement- Nominal, ordinal, Interval and Ratio
- The Normal Curve and Standard Scores- Characteristics of Normal probability Curve (NPC) and its application. Standard scores- Z-score and T-score

Unit- II: Measurement of Variability and Relationship

- Examining variation: Average deviation, standard deviation, Quartile deviation
- Examining Relationship- Meaning and types of correlation.
- Computation of: Rank Difference, Product Moment, Bi-serial, Point Bi-serial, Phi Coefficient and Multiple Correlation

Unit- III: Inferential Statistics

- Concept of Parameter and Statistics, Sampling Error, Standard Error
- Testing of Hypothesis: Null and Alternative hypothesis, Types of Error (Type-I and Type-II). Level of significance, degrees of freedom, one tailed and two tailed tests. Significance difference between two means (Independent and Correlated Samples)
- Analysis of Variance (ANOVA)- one way, two-way, assumptions, computation and uses

Unit- IV: Non-Parametric Statistics

- Concept of Non-parametric statistics
- Chi-square test and its uses
- Sign test and Median Test
- Advantages and limitation of non-parametric statistics

COURSE OUTCOMES:

On completion of this course the students shall be able to:

- Use appropriate procedures to analyse data
- Analyse the data descriptively
- Examine different types of variables and their relationship

REFERENCES:

Agrawal, Y P. (1998). Statistical Methods. New Delhi: Sterling publishers Pvt. Ltd.

Buch. (2006). Surveys of Education Nos. 1,2,3 & 4, New Delhi: NCERT.

Campbell, DT. (1966). Experimental and Quasi-Experimental Designs for Research. Chicago: McNally. Crofts.

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Good, C.V. (1963). Introduction to Educational Research. New York: Applenton Century.

Guilford, J.P. & Fruchter, B. (1981). Fundamental Statistics in Psychology and Education. New York: McGraw Hill.

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Mangal, S.K. (2008). Statistics in Education and Psychology. New Delhi: Prentice Hall of India Private Limited.

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Ravid, R. (2000). Practical Statistics for Education. New York: University Press of America

Semester-III
Paper: CC-303
Credit-5
SEMINAR AND TERM PAPER
FULL MARKS: 100

COURSE OBJECTIVES:

The basic objective of the course is

- To acquaint the learner about the skill needed for seminar presentation.

DETAILS COURSE CONTENT

Each student shall develop two seminar papers and two term papers on the topic of his/her choice with research evidence and in-text references. The seminar papers will be presented by using presentation tools along with submission of full papers in hard copy authenticated by supervisors. Marks shall be awarded to each student internally on the basis of relevance of the paper, standard and quality of the paper, style of presentation and clarification of doubts raised by the participants. Participation of all students is mandatory. Distribution of marks shall be as follows:

Seminar and Term Paper Presentation:		70 Marks
Viva-Voce	:	30 Marks
Total	:	100 Marks

COURSE OUTCOME:

At the end of this course the student will be able to:

- Prepares research-based seminar paper and term paper and present in the group.

Semester-III
Paper: CC-304
Credit-5
RESEARCH METHODOLOGY
FULL MARKS: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

- To Understand the meaning & Nature of Educational Research
- To provide insight of types of Educational Research
- To Understand the foundations of educational research
- To Develop insight of the types and methods of educational research
- To Understand the necessity of review of literature
- To Construct and use different kinds of Tools & techniques of Collecting Data
- To Formulate and test Hypothesis
- To Understand about the fundamentals of Sampling theory and technique
- To Familiarize about various measurement and scaling techniques

DETAILS COURSE CONTENTS

Unit- I: Fundamental of Educational Research

- Educational research: Meaning, Types, Scope and Limitation
- Research paradigm: Quantitative, Qualitative and Mixed- Their characteristics
- Scientific method: Characteristics, Types and Aims
- Importance of Review of related literature in Research

Unit- II: Formulating Research Problem

- Identification of Research Problem
- Variables–Types of variables and controlling variables,
- Hypothesis – Classification, Formulation and Testing of Hypothesis.
- Preparation of research proposal

Unit- III: Tools, Techniques and Sampling

- Concept of population and sample -Characteristics of good sample
- Sampling techniques and sampling error
- Tools of research: Rating scale, Attitude scale, Questionnaire, Aptitude test and Achievement Test, Inventory
- Techniques of Research: Observation, Interview and Projective Techniques

Unit- IV: Types of Research and Research Report and Dissemination

- Philosophical and Historical research
- Descriptive and Experimental research
- Ex-post facto Research
- Research report and dissemination of research findings

COURSE OUTCOMES:

- Develop insight of the types and methods of educational research
- Construct and use different kinds of Tools & techniques of Collecting Data
- Formulate and test Hypothesis
- Use of various measurement and scaling techniques
- Get employability in School Education

REFERENCES:

Best J.W. & Khan, J. V. Research and Education Prentice Hall of India, Englewood cliffs.

Gay, L. R.: Educational Research: Competencies for Analysers and Applications, Mc Millan, New York.

Hopkins, D.A. Teacher's Guide to class-room Research O. U. Press, London.

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Kaul, L. Methodology of Educational Research, New Delhi: Vani Educational Books.

Sharma, S. R. Philosophy of Educational Research, New Delhi: Anmol.

Sukhia, S. P.: Mehrotra, P. V. and Mehrotra, R. N. Elements of Educational Research Allied Bombay.

Semester-III
Paper: CC-305(OEC)
Credit-5
GUIDANCE AND COUNSELLING
Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of the course the students shall be able to:

- To develop understanding of basic meaning, need and types of guidance
- To get acquainted with the tools and techniques of appraisal of an individual
- To develop understanding of meaning characteristics and types of counselling
- To get acquainted with process and techniques of Counselling.
- To get acquainted with the importance of placement and follow up services.
- To develop understanding about Counselling- research, issues and trends.

DETAILS COURSE CONTENT

Unit- I: Introduction to Guidance and Counselling

- Guidance and Counselling: Concept, Need, Scope and Principle
- Importance of guidance and counselling at various level of schooling and relationship with counselling
- Types of Guidance programme: Socio-personal, Educational and Vocational.

Unit- II: Essentials Services in Guidance Programme

- Types of guidance services: Orientation, information services, student's appraisal, individual inventory, counselling, referral, placement and follow up
- Significance of Research and evaluation in guidance programme
- Condition essentials for planning and organization of guidance programmes in schools

Unit- III: Assessment for Guidance and Counselling

- Assessment of Guidance and Counselling: Need and Importance
- Tools and techniques of psychological testing
- Non-testing techniques: Observation and Interview, sources of information, anecdotal record, cumulative record, sociometry and portfolio assessment

Unit- IV: Guidance for Students with Special Needs:

- Guidance for students with Disabilities, Gifted & Creative and Socially Disadvantaged & Juvenile Delinquent.
- School guidance committee: Constitution, Roles and Functions
- Role of teachers, parents, administrator and other personnel in guidance to students with disabilities.

COURSE OUTCOMES:

On completion of the course the students shall be able to:

- Acquaint with the tools and techniques of appraisal of an individual
- Acquaint with process and techniques of Counselling.
- Get employability in different Education Sectors

REFERENCES:

Anand, S.P. (2007). Guidance in School, Bhubaneswar: Global Printers

Bantole, M.D. (1984). Guidance and counselling. Bombay: Sheth and Sheth Publications.

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Gibson, R.L. and Mitchell, M.H. (1986). Introduction to Guidance, New York: McMillon

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Sharma, R.N. and Sharma R. (2004) Guidance and Counselling in India, New Delhi: Atlantic

Semester-IV

Paper: CC-401

Credit- 5

PEDAGOGY, ANDRAGOGY, AND ASSESSMENT

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of the course the students shall be able to:

- Describe the role of assessment in education.
- Distinguish measurement, assessment and evaluation.
- Understand assessment in pedagogy of education.
- Understand assessment in andragogy of education.

DETAILS COURSE CONTENTS

Unit- I: Pedagogy in Education

- Concept and Stages, Critical Pedagogy- Meaning, Need and its implications in Teacher Education,
- Organizing Teaching: Memory Level (Herbartian Model), Understanding Level (Morrison teaching Model), Reflective Level (Bigge and Hunt teaching Model)

Unit- II: Concept of Andragogy in Education

- Meaning, Principles, Competencies of Self-directed Learning,
- Theory of Andragogy (Malcolm Knowles),
- The Dynamic Model of Learner Autonomy

Unit- III: Assessment

- Meaning, nature, perspectives (assessment for Learning, assessment of learning)
- Types of Assessment (Placement, formative, diagnostic, summative),
- Assessment of Cognitive (Anderson and Krathwohl), Affective (Krathwohl) and psychomotor domains (R.H. Dave) of learning

Unit- IV: Assessment in Andragogy of Education

- Interaction Analysis: Flanders' Interaction analysis,
- Galloway's system of interaction analysis (Recording of Classroom Events, Construction and Interpretation of Interaction Matrix)

COURSE OUTCOMES:

On completion of the course the students shall be able to:

- Visualize the structure and frame work of teacher education.
- Understand the prevailing trends in teacher education and agencies to develop and implement the concerned policies in India.

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New Delhi: NCERT National Council of Educational Research and Training (2006).

Position paper: Examination Reforms. New Delhi: NCERT National Council of Educational Research and Training (2008).

Source Book on Assessment for class I-V: Social Sciences. New Delhi: NCERT

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Semester-IV

Paper: CC-402

Credit-5

EMERGING ISSUES IN EDUCATION

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

- To Comprehend the various constitutional provisions.
- To Acquire the skill to eradicate inequality, discrimination and marginalization in education.
- To Review objectives and social purposes of higher education in the context of globalization.

DETAILS COURSE CONTENTS

Unit- I: Education as a Field of Knowledge

- Knowledge and discipline: Concept and Nature, and Categories
- Forms of Knowledge: Basic, Applied, Multidisciplinary and Interdisciplinary
- Perspectives of Education: Logical and Social

Unit- II: Current Issues in Educational Practice

- Equality, Equity and Quality; Autonomy and Accountability; Testing and Assessment.
- Policy of inclusion-Women, Minorities, Disabled, SCs and STs
- Efforts to address the issues through SSA and RMSA

Unit- III: Contemporary Issues in Education

- Liberalization, Globalization and Privatization (LPG) in education
- Language and medium of instructions: Multi-lingualism and Multi-culturalism.
- Peace Education

Unit- IV: Programme and policy issues in Education

- Human Rights Education
- Right of Children to Free and Compulsory Education.
- Efforts for upgrading the quality of Higher Education through RUSA

COURSE OUTCOMES:

- Realize the policy framework for Education in India.
- Develop the knowledge about various policies on education
- Examine the role and functions of different monitoring agencies of education

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- Gov. of India (1992), National policy on education (revised) New Delhi.
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Semester-IV

Special Paper (1): CC-403

Credit-5

SCHOOL EDUCATION

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OUTCOMES:

- Acquaint the student with different perspectives of elementary and secondary education.
- Enable learners to understand the curriculum design and development in elementary and secondary education.
- Enable the students to understand the policies and challenges in elementary and secondary education.
- Enable the students to understand classroom planning and evaluation for elementary and secondary education.
- Develop the knowledge and skills require for resource management in schools at elementary and secondary level.
- Enable the students to understand the need of professional development of elementary and secondary school teachers.

DETAILS COURSE CONTENTS

Unit- I: Perspectives of Elementary Education

- Concept, Meaning, Objectives and Role of UEE
- Schemes for Universalization of Elementary Education with reference to their objectives, strategies and present status: SSA, KGBV, Mid-Day Meal and NPEGEL
- Constitutional Provisions and Policy Initiatives in Elementary Education (National Policy on Education-1986 and its POA-1992, National Education Policy 2020; District Primary Education Program (DPEP), National Campaign for Education for All (Sarva Siksha Abhiyan), Right to Education Act-2009).
- Specific Problems/challenges regarding Finance, Organizing, Administration, Student Enrolment and Quality Instruction.

Unit- II: Resource Management in Schools at Elementary Level

- Local specific community resources – human and material & their integration to curricular activities; preparation & use of learning and play materials – principles and characteristics; community involvement in effective implementation of elementary level programmes.
- Participation of Panchayatraj Institutions and local community in educational planning, management and supervision.
- Participation of NGOs in achieving goals of elementary education

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Unit- III: Perspectives of Secondary Education

- System and Structure of school in India: Central Board of Secondary Education (CBSE), Secondary School Certificate Board (SSC) State Board, Indian Certificate of Secondary Education Delhi Board (I.C.S.E) and Other Types of Schools: International Baccalaureate (IB), National Open Schools, Special-Needs Schools and Alternate Schools in India.
- Types of School Education in India: Aided- unaided, Private, International and Issues related to School Education in India at Secondary and Higher Secondary Education level.
- Policies and Programmes-Policies and Programmes: Role of N.C.E.R.T, S.C.E.R.T, National Policy of Education (1992), National Education Policy (2020), National Scheme of Incentives to Girls for Secondary Education (2008), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) -"National Mission for Secondary Education", Inclusive Education for Disabled at Secondary Stage, The Adolescence Education Programme (AEP).

Unit- IV: Resource Management and Challenges in Schools at Secondary Level

- Use of Local Specific Community Resources – Human and Material and their Integration to curricular Activities.
- Community Involvement in Effective Implementation of Secondary and Higher Secondary Level Programmes
- Participation of NGOs in Achieving Goals of Secondary Education
- Problems and Challenges Related to Universalization of Secondary Education
- Strategies Adopted in Solving the Problems- Girls, Disadvantaged and Differently-Abled Children and Slow Learners and Interventions to Solve the Problem

COURSE OUTCOMES:

At the end of this course the student will be able to:

- Discuss the nature, and scope of school education
- Examine the status of development of school education in India after Independence
- Explain the problem and challenges related to school education
- Elaborate the programmes and policies for expansion of school education
- Identify critical issues related to universalization of school education
- Examine the role and contribution of various Bodies and support institutions for improving quality of school Education.

REFERENCES:

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Biswal. K (2011) Secondary Education in India: Development Policies, Programmes and Challenges: CREATE PATHWAYS TO ACCESS Research Monograph No. 63,

Consortium for Research on Educational Access, Transitions and Equity, NUEPA [http://www.nuepa.org/Download/Publications/Create/PTA%202011/PTA63. pdf](http://www.nuepa.org/Download/Publications/Create/PTA%202011/PTA63.pdf)

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Semester-IV

Special Paper (2): CC-403

Credit-5

HIGHER EDUCATION

Full Marks: 100 (Ext. 80 + Int. 20)

COURSE OBJECTIVES:

On completion of the course the students shall be able to:

- Develop the conceptual knowledge of higher education
- View point of different commission and committees on higher education.
- Role of various agencies in higher education
- Explain the advantage and disadvantage of privatization of higher education.

DETAILS COURSE CONTENT

Unit- I: Development of Higher Education

- Development of Higher Education in India: Pre-Independence and Post-Independent period with special reference to recommendation of University Education Commission (UEC, 1948)
- Higher education with reference to Indian Education Commission (1964-66)
- Higher education with reference to National Policy on Education (1986)

Unit- II: Management of Higher Education

- Autonomy, Accountability, Management and financing of Higher Education Institutions.
- Role and function of various agencies of Higher Education: MHRD, UGC, NAAC, AIU, DST, ICSSR, NIEPA, NCTE, IGNOU
- Quality Assurance and Assessment in Higher Education.

Unit-III: Privatization of Higher Education

- Privatization of Higher Education: Concept, emerging issues and challenges
- Privatization of Teacher Education: Issues and Challenges
- Suggestions to improve Privatization of Higher Education in India.

Unit- IV: Rethinking Development in Higher education

- Higher education and new imperialism threat
- Opportunities and anomalies liberalization and internationalization of Higher Education
- Emergence of Open and Distance Learning (ODL) at the tertiary level

COURSE OUTCOMES:

On completion of the course the students shall be able to:

- Get knowledge about different commission and committees on higher education.
- Get knowledge about Open and Distance Learning (ODL)

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Chaube, S. P. (1985). History of Indian Education. Agra; Vinod Pustak Mandir, Agra.

Nanda, S. K. India Education and its problem today, New Delhi: Kalyani Publishers.

Narullah, S. & Naik, J. P. (1951). A History of Education in India, Mc Millan, Bombay.

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Semester-IV

Paper: CC-404

Credit-10

**PRACTICUM: DISSERTATION: COLLECTION OF DATA, ANALYSIS,
INTERPRETATION, REPORT WRITING AND PRESENTATION**

Full Marks: 200

OBJECTIVES:

- To develop the different process of data collection.
- To develop reporting format and style.

ACTIVITIES:

Each candidate shall have to submit a complete dissertation under the supervision of a member of the staff of the department. The final dissertation shall be assessed holistically by the examiners on criteria decided jointly by the internal and external examiners. While assessing the dissertation at the pre-submission stage the following aspects are to be examined.

- Logical organization of the chapters and sub-chapters.
- Approved reporting format and style
- Approved letter font used
- Approved style of preparing references
- Systematic arrangement of appendices
- Appropriate and sequential presentation of graphs and charts in the dissertation It will be evaluated jointly by the Internal and External Examiners.

The distribution of marks shall be as follows.

Report	: 140 Marks
Viva-voce	: 60 Marks
Total	: 200 Marks

SUBJECT SPECIFIC OUTCOMES:

On Completion of The Course in This Semester, The student shall

- Complete data collection
- Conduct data analysis
- Interpret the result
- Develop practical skill for application of the research theme chosen for the Dissertation

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PG DEPARTMENT OF POLITICAL SCIENCE
MPC AUTONOMOUS COLLEGE, TAKHATPUR , BARIPADA
SYLLABUS FOR M.A. IN POLITICAL SCIENCE

AS PER CBCS

With effect from 2023-2024

FIRST SEMESTER

Sub	Course Code	Name of the Paper	Credits	Maximum Marks		Total
				Mid -Sem	End-Sem	
POL.SC.	CC-101	Political Theory: Concepts and Approaches	5	20	80	100
	CC-102	Comparative Politics : An Overview	5	20	80	100
	CC-103	Theory and Principles of Public Administration	5	20	80	100
	CC-104	Theory and Approaches to International Relations	5	20	80	100
	CC-105	Western Political Thought – I	5	20	80	100
		Total	25	100	400	500

SECOND SEMESTER

Sub	Course Code	Name of the Paper	Credits	Maximum Marks		Total
				Mid -Sem	End-Sem	
POL.SC.	CC-201	Contemporary Political Theory: Issues and Trends	5	20	80	100
	CC-202	Indian Political System-I	5	20	80	100
	CC-203	Issues in Indian Administration	5	20	80	100
	CC-204	Issues And Changing Dimensions of World Politics	5	20	80	100
	CC-205	Western Political Thought – II	5	20	80	100
		Total	25	100	400	500

THIRD SEMESTER

Sub	Course Code	Name of the Paper	Credits	Maximum Marks		Total
				Mid -Sem	End-Sem	
POL.SC.	CC-301	Political Sociology	5	20	80	100
	CC-302	Indian Foreign Policy in the contemporary World	5	20	80	100
	CC-303	Indian Political System-II	5	20	80	100
	CC-304	Research Methodology	5	20	80	100
	OEC-305	Indian Government and Politics	5	--	100	100
		Total	25	80	420	500

FOURTH SEMESTER

Sub	Course Code	Name of the Paper	Credits	Maximum Marks		Total
				Mid -Sem	End-Sem	
POL.SC.	CC-401	Public Policy and Governance	5	20	80	100
	CC-402	Social and Political Movement in India	5	20	80	100
	EC-403A	Human Rights : Concepts and Issues	5	20	80	100
	EC-404A	Modern Indian Political Thinkers	5	20	80	100
	CC-405	Dissertation	5	--	100	100
		Total	25	100	400	500

ELECTIVE COURSES (FOURTH SEMESTER)

EC-403(A) or : Human Rights : Concepts and Issues

EC-403(B) or: Peace and Conflict Studies

EC-403(C) or: Democracy & Governance in India

EC-403(D) : Indian Administration

EC-404(A)or: Modern Indian Political Thinkers

EC-404(B)or: Public Policy Studies

EC-404(C) or: Women and Politics in India

EC-404(D) : State and Local Administration in India with Special Reference to Odisha

POL.SC.-CC-101: POLITICAL THEORY: CONCEPTS AND APPROACHES

(5 Credits-100 Marks)

This course aims to build up a clear understanding of the nature, theoretical enquiry and practice of Political Theory. It will also acquaint the students with important contemporary ideas, concepts and their practice.

Learning Objectives

- i. To familiarize students with the theoretical dimensions of Political Science
- ii. To acquaint students with critical contemporary areas in Political Theory

Expected Outcomes: Students will be able to:

- i. Develop sharp understanding of the subject and enrich skills of analysis and judgment
- ii. Comprehend the contemporary changes in the subject.

UNIT-I: Concept, Approaches and Perspective of Political Theory

- 1.1 Political Theory : Meaning and Significance
- 1.2 Approaches -: Normative and Empirical
- 1.3 Perspectives in Political Theory- Liberal, Marxist and Feminist

UNIT-II: Political Debates

- 2.1 Debates on the Decline and Resurgence of Political Theory
- 2.2 Political Ideology –Meaning and Interpretations
- 2.3 End of Ideology Debate

UNIT-III: Changing nature of the State

- 3.1 Theories of State: Liberal, Marxist, Pluralist
- 3.2 Recent Theories: Post-Colonial ,Neo-Liberal and Feminist

UNIT-IV: Democracy as Political Concept

- 4.1 Democracy: Idea in Evolution from Classical to Contemporary
- 4.2 Models of Democracy: Procedural, Participatory and Deliberative

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Introduction to Political Analysis-David Apter
2. Modern Political Theory-S.P.Verma
3. Modern Political Analysis-Robert Dahl
4. The Political System-David Easton
5. Political Theory:Issues and Concepts-Sushila Ramaswamy
6. Political Theory and Modern State-David Held
7. An Introduction to Political Theory-O.P.Gauba
8. Issues in Political Theory- Catriona McKinnon

9. Introduction to Political Theory-John Hoffman & Paul Graham

POL.SC.-CC-102: COMPARATIVE POLITICS: AN OVERVIEW

(5 Credits-100 Marks)

Introduction: This is a foundational course in Comparative Politics. The purpose is to familiarize students with the basic concepts and approaches to the study of Comparative Politics. More specifically the course will focus on examining politics in a historical framework while engaging with various themes of comparative analysis in developed and developing countries.

Learning Objectives:

- i. To familiarize students with the foundations of Comparative Politics and approaches to the study.
- ii. To develop an historical understanding on the various themes of Comparative Politics in developed and developing countries

Expected Outcomes: Students will be able to:

- i. Comprehend the basic concepts in Comparative Politics
- ii. Enrich their understandings in Comparative Politics by drawing comparisons between developed and developing countries

UNIT-I: Concept and Approaches of Comparative Politics

1.1 Comparative Politics-Evolution, Nature and Significance

1.2 Methods and Approaches: Systems Approach, Structural-Functional Approach, Marxist Approach

UNIT-II : Debate over Nature of State

2.1 State Theory: Debate over the nature of State in capitalist and socialist societies; Post-colonial State; Welfare State; Globalization and Nation-States

2.2 Parliamentary and Presidential Form of Government in Comparative Perspective

UNIT-III: Concept of Constitutionalism and Federalism

3.1 Constitutionalism: Concepts, Problems and Limitations; Typologies of Constitutions

3.2 Federalism: Pattern & Trends in Comparative Perspective

UNIT-IV: Political Regimes and Political Elites

4.1 Political Regimes: Democratic (Electoral, Liberal, Majoritarian and Participatory) and Non-Democratic Regimes (Authoritarian, Military-dictatorial, Totalitarian and Fascist).

4.2 Political Elite: Meaning and Theories; Elite Theory of Democracy.

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Theories of Comp Pol, Ronald H Chilkote
2. Comparative Politics ,Daniele Caramani:Rod Hague,Martin Harrop&John Mc Cormick 10th Edition
3. Pushpa Singh & Chetna Sharma Comp Govt and Politics
4. Almond. G.A and Powell G.B. Comparative Politics Boston, 1978.
5. Almond G.A. and Tames S. Coleman, The Politics of Developing Areas (Princeton, 1970).
6. Blondel J., Comparative Governments (London, 1969),
7. Blondel J. And Powell G.B. Comparative Politics: A development Approach.
8. Bottomore T.B., Elites and Society, Penguin, 1985.
9. S.P. Verma, Modern Political Theory, Vikas Publishing, Third Print 1996.
10. S.N. Kay, Comparative Politics.
11. Apter. Darid, Harry Eckstein (eds.) Comparative Politics, Subject Publication, 2003.

POL.SC.-CC-103: THEORY AND PRINCIPLES OF PUBLIC ADMINISTRATION

(5 Credits-100 Marks)

Introduction: This paper deals with different dimensions of administration including personnel and financial management highlighting the major debates in the contemporary times. There is a need to understand the link between administration and management in a globalizing world, wherein environment, administration and development are all inter-related. The essence of Public Administration is explored through the various good governance initiatives introduced in India.

Learning Objectives: To introduce students

- i. to different dimensions of Public Administration and Management
- ii. to major debates on management of Public Administration in the contemporary times
- iii. to the concept of governance in the context of a globalizing world
- iv. to good governance practices in India

Expected Outcomes: Students will be able to:

- i. Understand different dimensions of governance in the context of globalization
- ii. Also understand good governance practices in India

UNIT-I: Basics of Public Administration

- 1.1 Meaning, Nature and Scope of Public Administration
- 1.2 Evolution of Public Administration as a Discipline
- 1.3 Public and Private Administration,

UNIT-II: Concepts and Principles

- 2.1 New Public Administration & New Public Management
- 2.2 Principles of Organisation: Hierarchy, Span of Control, Unity of Command, Coordination,

Authority: Centralisation and Decentralisation

2.3 An Overview of Comparative Administration and Development Administration (Riggs' Model)

UNIT-III: Theories of Organisation

3.1 Theories of Organization: The Classical Theory, The Scientific Management Theory, The Bureaucratic Theory

3.2 An Overview of Human Relations Theory(Elton Mayo and Others), Herbert Simon's Decision Making Theory;

UNIT-IV : Principles of administrative management

4.1 Principles of administrative management: Leadership, Decision Making

4.2 An overview of Motivation & Communication

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Readings:

1. Avasthi and Maheswari, "Public Administration", Agra, Laxmi Narayan Agarwal, 1988.
2. Mohit Bhattacharya "Public Administration", World Press (Second Edition, 1991)
3. B.L. Fadia and Kuldeep Fadia, "Public Administration: Administrative Theories and Concepts", Agra, Sahitya Bhawan, 2014.
4. Rumki Basu, (2004) "Public Administration: Concepts and Theories" New Delhi, Sterling Publishers,
5. Bidyut Chakravorty (2013). "*Public Administration*", sage , New Delhi.
6. L. D. White (1948) Introduction of the study of Public Administration, New Delhi.
7. White, L.D. 'Introduction to the study of Public Administration', New York, Mamillan Company, 4th Edition, 1958
8. Nigro, Felix A Public Administration- Reading & Documentary New York, Rinchart & Co.
9. Gulick, Luther & Ureuick. L. (Edited) "Paers on the Science & Admin" New York, Institutions of Public Adminstration.
10. Good now, Frank J. 'Politics & Adm.', New York, Macmillian
11. Arora, Ramesh K(Ed), 2004,"Public Administration: Fresh perspeptions", Aalekh, Jaipur

POL.SC.-CC-104: THEORY & APPROACHES TO INTERNATIONAL RELATIONS

(5 Credits-100 Marks)

Introduction: This paper seeks to equip students with the basic intellectual tools for understanding International Relations. It introduces students to some of the most important theoretical approaches for studying International Relations. It also provides an overview of the major theoretical debates and emerging concepts.

Learning Objectives:

- i) To introduce students with the foundations of International Politics
- ii) To provide an overview of the major theoretical debates starting from the twentieth century

Expected Outcomes: Students will be able to:

- i. Comprehend the basic concepts and theories of International Politics
- ii. Develop an alternative understanding to Euro centrism of International Relations

UNIT-I: Concepts and Approaches

- 1.1 Evolution of International Relations as a discipline.
- 1.2 Approaches to the study of International Relations: Idealism, Realism, Neo- realism, Neo-liberalism, Neo-Marxism

UNIT-II: Alternative Approaches and Theories

- 2.1 Alternative approaches in International Relations: Systems theory, Structural Functional theory and decision making theory.
- 2.2 An Overview of Feminist theory, Critical theory, Functionalist theory in International Relations

UNIT-III: Key Concepts

- 3.1 Key Concepts: National Interest, Ideology, Security: Traditional and Non-traditional
- 3.2 State as an Actor, Challenges of Globalization and Information Revolution.

UNIT-IV: Contemporary Issues

- 4.1 Dynamics of Balance of Power and deterrence,
- 4.2 Conflict and peace: Conflict Resolution; Diplomacy
- 4.3 Humanitarian Intervention.

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Martin Hollis and Steve Smith, (1991), -The Growth of a Disciplinell, in Martin Hollis and Steve Smith, Explaining and Understanding International Relations, Oxford: Clarendon Press
2. J. Baylis, Smith and Owens, eds. (2017) The Globalization of World Politics: An Introduction to International Relations, New York: Oxford University Press.
3. R. Jackson and G. Sorensen, (2007) Introduction to International Relations: Theories and Approaches, 3rd Edition, Oxford: Oxford University Press,
4. Goldstein, J. and Pevehouse, J.C. (2006) International relations. 6th edn. New Delhi: Pearson,
5. Viotti, P.R. and Kauppi, M.V. (2007) International relations and world politic: security, economy, identity. 3rd edn. New Delhi: Pearson Education.
6. Basu, Rumki (eds.) (2017), International Politics: Concepts, Theories and Issues, New Delhi: SAGETexts.
7. Goldstein, J.S. (2003) International Relations. 3rd edn. Delhi: Pearson Education. Hans Morgenthau. (1997), Politics Among Nations, New Delhi: Kalyani Publishers.
8. Kenneth Waltz. (1979), Theory of International Politics, London: Addison-Wesley Publishing.
9. Scott Burchill et al, (2005), Theories of International Relations 3rd ed, Basingstoke: PalgraveMacmillan.

10. Chris Brown and Kirsten Ainley. (2005), Understanding International Relations, 3rd Ed., Palgrave:Macmillan.
11. Heywood Andrew.(2011) - Global Politics ,Palgrave Macmillan

POL.SC.-CC-105- WESTERN POLITICAL THOUGHT-I

(5Credits-100 Marks)

Introduction: This course goes back to Greek antiquity and familiarizes students with the manner in which the political questions were first posed. Machiavelli comes as an interlude inaugurating modern politics followed by Hobbes and Locke, Rousseau, Marx. This is a basic foundation course

Learning Objectives:

- i. To introduce students to Greek and medieval political thought
- ii. To provide students insights into the philosophies of Hobbes, Locke, Rousseau, Marx and Mill

Expected Outcomes: Students will be able to:

- i. Understand the foundations of Political Thought.

UNIT-I: Plato and Aristotle

- 1.1 Plato- Ideal State, Theory of Justice, Theory of Knowledge-Philosopher King, Communism.
- 1.2. Aristotle- Origin, Nature and Purpose of State, Constitution: Classifications, Revolution and Slavery.

UNIT-II: Machiavelli and Thomas Hobbes

- 2.1 Niccolo Machiavelli- Human Nature, Ethics and Politics, Child of Renaissance.
- 2.2 Thomas Hobbes- Human Nature, Theory of Social Contract, Absolute Sovereignty.

UNIT-III: Locke and Rousseau

- 3.1 John Locke - Natural Law, Theory of Natural Rights, Social Contract, Limited Government.
- 3.2 Jean Jacques Rousseau- State of Nature, Origin of Inequality, Social Contract, General Will, Civil Liberty

UNIT-IV: Bentham and Mill

- 4.1 Jeremy Bentham- theory of utilitarianism, theory of law, idea on State, idea of Human rights and moral Philosophy
- 4.2 John Stuart Mill- theory of utilitarianism, political thought, concept of liberty.

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Plato and His Predecessors - Ernest Barker
2. Plato and Aristotle. - Ernest Barker
3. Masters of Political Thought.- W. T. Jones
4. Open Society and its Enemies- Karl Popper
5. A History of Political Philosophy- G.H.Sabine
6. Western Political Thought-B.Nelson
7. Teach Yourself Political Thought- C.L.Wayper
8. Political Theory-Andrew Hacker
9. History of Political Thought-Sukhbir Singh
10. Western Political Thought- O.P.Gauba
11. Great Political Thinkers. - William Ebenstein
12. Masters of Political Thought. – M.B.Foster

POL.SC.-CC-201- CONTEMPORARY POLITICAL THEORY : ISSUES AND TRENDS

(5 Credits-100 Marks)

Introduction: This course is divided into two sections. Section- A helps the students familiarize with the basic normative concepts of political theory. Each concept is related to a crucial political issue that requires analysis with the aid of our conceptual understanding. This exercise is designed to encourage critical and reflective analysis and interpretation of social practices through the relevant conceptual toolkit. Section B introduces the students to the important debates in the subject.

Learning Objectives:

- i. To familiarize students with the basic normative concepts in political theory
- ii. To acquaint students with critical contemporary debates in political theory
- iii. To provide students with new insights into the contemporary global challenges

Expected Outcomes: Students will be able to:

- i. Explore and understand new dimensions and debates in contemporary political theory
- ii. Enrich their understandings on contemporary debates

UNIT-I : Political Ideologies

- 1.1 Liberalism, Marxism, Conservatism
- 1.2 Neo-Liberalism, Neo-Marxism

UNIT-II: Contemporary Ideologies

- 2.1 Multiculturalism
- 2.2 Libertarianism
- 2.3 Communitarianism

UNIT-III : Political Concepts

- 3.1 Liberty, Equality, Rights and Justice
- 3.2 Citizenship ,Civil Society

UNIT-IV : Critical Approaches

- 4.1 Feminism- Major Perspectives
- 4.2 Modernism and Post-Modernism
- 4.3 Environmentalism

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Heywood, Andrew. Key concepts in politics. London: Macmillan Education, 2000.
2. Heywood, Andrew Political Ideologies: An Introduction. 6th edition. Palgrave, 2017.
3. Heywood, Andrew Political Theory: An Introduction, 4th edition. Palgrave, 2015
4. Walzer, M, 1983, Spheres of Justice, New York: Basic Books.
5. Nozick, Robert (1974). Anarchy, State and Utopia. New York: Basic Books.
6. Kymlicka, Will. Contemporary Political Philosophy: An Introduction, 2nd ed. Oxford University Press, 2002.
7. Sandel, Michael (1998) Liberalism and the Limits of Justice, Cambridge University Press,
8. Gaus, Gerald F. and Chandran Kukathas. A Handbook of Political Theory. Sage, 2004.
9. Goodin, Robert E., Philip Pettit and Thomas Pogge. A Companion to Contemporary Political Philosophy. Blackwell Publishing, 2007.
10. Harvey, David(2007) Brief History of Neo-liberalism
11. Rawls, John. A Theory of Justice, Revised edition. Harvard University Press, 1999.
12. B. Parekh, *Rethinking Multiculturalism: Cultural Diversity and Political theory*. Macmillan Press, London, 2000
13. C. Taylor, *Multiculturalism: Examining the Politics of Recognition*, edited by J.P. Mayer and M. Lerner, New York, Harper, London, Fontana, 1968.
14. S.K. White, *Political Theory and Postmodernism*, Cambridge University Press, Cambridge, 1991

POL.SC.-CC-202- INDIAN POLITICAL SYSTEM-I

(5 Credits-100 Marks)

Introduction: This course will give an overview of the historical trajectory of the politics of India especially with regards to the making of the Indian Constitution. It will also acquaint the students with the structures and functions of the various political institutions in India.

Learning objectives:

- i. To acquaint students with the ideological and philosophical ethos and values of Indian Constitution.
- ii. To help students understand the actual functioning of various political institutions in India.

Expected Outcomes: Students will be able to:

- i. Understand and compare the philosophical and ideological basis of the Indian Constitution with the existing political institutions.
- ii. Comprehend the relevance of the long history of constitutional development in India.

UNIT-I: Ideological Basis of Indian Constitution

1.1 Making of the Indian Constitution: The Constituent Assembly - Composition, Nature and its working

1.2 Ideological Contents: Preamble, Fundamental Rights and Directive Principles of State Policy

1.3 Doctrine of Basic Structure

UNIT-II: Working of Federalism in India

2.1 Federalism and its working: Nature and Areas of Tension in Centre-State Relations, Recent Trends in Indian Federalism

2.2 Constitution as an Instrument of Social Change: Major Constitutional Amendments

UNIT-III: Union Executive and Legislature

3.1 Union Executive: President, Prime Minister & Council of Ministers: Critical Assessment

3.2 Union Legislature: Composition and Role of Parliament, Working of the Parliamentary System of Democracy

UNIT-IV: Union Judiciary and State Executive & Legislature

- 4.1 Judiciary: Integrated Judicial System in India, Judicial Review, Public Interest Litigation(PIL), Judicial Activism, JudicialReforms
- 4.2 State Executive & Legislature: Role of Governor, Chief Minister and Council of Ministers, LegislativeAssembly and Legislative Council

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Fadia, B.L.(2011), -Indian Government and Politics, Agra: Sahitya Bhawan Publications.
2. Pylee , M.V.(2003), -Our Constitution Government and Politics, New Delhi : Universal Law Publishing Co.
3. Bakshi, P.M.(2015), -The Constitution of India, Delhi: Universal Law Publishing Co. Pvt. Ltd.
4. Austin, Granville (1999), -Working A Democratic Constitution: The Indian Experience, Delhi: OUP.
5. Bhagwan, V & Vandana Mohla(2007), -Indian Government and Politics, New Delhi: Kalyani Publishers.
6. Brass, P.R.(2006), — The politics of India since Independence, Cambridge: Cambridge University Press
7. Jayal, N.G. & Pratap Bhanu Mehta(eds.)(2010), — The Oxford Companion to Politics in India, New Delhi: Oxford University Press.
8. S. Kashyap (2017), Our Constitution: An Introduction to India's Constitution and Constitutional Law, New Delhi: National Book Trust.
9. M. P. Singh and Rekha Saxena. (2015) Federalizing India in the Age of Globalization, New Delhi: Primus Books
10. D.D. Basu (2012), Introduction to the Constitution of India, New Delhi: Lexis Nexis
11. Kohli, Atul, et.al. Routledge Handbook of Indian Politics. New Delhi: Routledge, 2018
12. Khosla, Madhav et.al. The Oxford Handbook of Indian Constitution. New Delhi: Oxford University Press, 2016.
13. Jayal, Niraja Gopal. The Oxford Companion to Politics in India. New Delhi: Oxford University Press, 2011.

POL.SC.-CC-203- ISSUES IN INDIAN ADMINISTRATION

(5 Credits-100 Marks)

Introduction: The course provides an introduction to the discipline of Public Administration by tracing its genesis and evolution. Besides giving an insight into the basic classical and contemporary theories of Public Administration, the course also explores the major approaches in Public Administration highlighting its varied and modern dimensions.

Learning Objectives:

- i. To acquaint students with various theoretical perspectives on Public Administration
- ii. To give students a comprehensive understanding of contemporary administrative developments

Expected Outcomes: The students will be able to:

- i. Analyze the scope and relevance of various theories of Public Administration in contemporary

times.

- ii. Understand how the call for greater democratization is restructuring Public Administration.

UNIT-I : Issues in Administration

- 1.1 Bureaucracy: Characteristics, Types and Role
- 1.2 Relationship between permanent and political executive
- 1.3 Generalist-Specialist Debate

UNIT-II: Financial Administration

- 2.1 Budget- Types, Preparation and Implementation
- 2.2 Audit and CAG
- 2.3 Parliamentary Control over financial administration

UNIT-III : Personnel Management

- 3.1 Recruitment, Training and Development
- 3.2 Employees Morale and Worker's participation in management

UNIT-IV: New Trends

- 4.1 Good Governance; Citizen's Charter
- 4.2 Right to Information
- 4.3 E-governance ; Corporate Social Responsibility

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Avasthi and Maheswari, "Public Administration", Agra, Laxmi Narayan Agarwal, 1988.
2. Mohit Bhattacharya "Public Administration", World Press (Second Edition, 1991)
3. B.L. Fadia and Kuldeep Fadia, "Public Administration: Administrative Theories and Concepts", Agra, Sahitya Bhawan, 2014.
4. Rumki Basu, (2004) "Public Administration: Concepts and Theories" New Delhi, Sterling Publishers,
5. Bidyut Chakravorty (2013). "*Public Administration*", sage , New Delhi.
6. L. D. White (1948) Introduction of the study of Public Administration, New Delhi.
7. Willoughby, W.F., Principles of Public Admin., Allahabad, Central Bank Depot.
8. Nigro, Felix A Public Administration- Reading & Documentary New York, Rinchart & Co.
9. Warner, Richard A. "the Principles of Public Admin, London Waldo, Deulight (Ed) "Ideas & Isses in Public Admin", Mew York, Medaw – Hill, 1953
10. Bhaattacharya, Mohit, 2003, "Pub. Admin. Today's & Tomorrow". Indian Journal of Pub. Admin. Col XLIII
11. Arora, Ramesh K(Ed), 2004,"Public Administration: Fresh perspections", Aalekh, Jaipur

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POL.SC.-CC-204- ISSUES AND CHANGING DIMENSIONS OF WORLD POLITICS

(5 Credits-100 Marks)

Introduction: Besides introducing the students to the key debates on the major challenges at the

global level, the course also will acquaint the students with the meaning and nature of globalization in the contemporary times. It will also impart an understanding of the working of the world economy, its anchors and resistances offered by global social movements while analyzing the changing nature of relationship between the state and trans-national actors and networks.

Learning Objectives:

- i. To offer offers insights into key contemporary global issues such as the nuclear proliferation, ecological issues, international terrorism, human security and global governance.
- ii. To provide a clearer understanding on the contemporary nature of global issues and challenges and the means and ways to confront and resolve them.

Expected Outcomes: The students will be able to:

- i. Understand the real nature of challenges before the global community and measures to resolve them.
- ii. Comprehend the nature of relationship between the state, non-state and trans-national actors in global politics.

UNIT-I : Post-Cold War Issues

- 1.1 Disintegration of USSR & the End of Cold War
- 1.2 American Hegemony and New World Order
- 1.3 Impact of globalization on World Politics

UNIT-II : Globalisation and International Relations: Related Approaches and Concepts

- 2.1 Political Economy of International Relations: Dependency Theory, World System Analysis, New Imperialism Debate
- 2.2 Human Rights, Ethnic conflicts and Environmental Issues

UNIT-III: Contemporary Global Issues

- 3.1 Contemporary Global Concerns: International Terrorism, Environmental Concerns, Migration and Refugees, Diaspora
- 3.2 Nuclear issues in the era of globalization: Arms control & disarmament; Problems of Nuclear Proliferation

UNIT-IV: Regional Organisation and World Politics

- 4.1 Role of regional Organization in World Politics: EU; ASEAN; SAARC
- 4.2 New International Economic Order (NIEO): North-South dialogue & South-South cooperation

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. J. Baylis, Smith and Owens, eds. (2017) The Globalization of World Politics: An Introduction to International Relations, New York: Oxford University Press.
2. Joseph E. Stiglitz (2018), Globalization and Its Discontents Revisited: Anti-Globalization in the Era of Trump, New York: W.W. Norton & Company
3. Karns, Margaret P. and Karen A. Mingst (2009), International Organizations: The Politics and Processes of Global Governance, 2nd Edition, Boulder: Lynne Rienner, Chapter 2.
4. Goldstein, J. and Pevehouse, J.C. (2006) International relations. 6th edn. New Delhi: Pearson, pp. 265-282.
5. Chris Brown with Kirsten Ainley, Understanding International Relations, 3rd Ed., Palgrave Macmillan, 2005.
6. Tim Dunne, M. Kurki Steve Smith, International Relations. Discipline and Diversity, Oxford University Press, 2007.
7. Basu, Rumki (eds.) (2017), International Politics: Concepts, Theories and Issues, New Delhi: SAGE Texts.
8. Hedley Bull, The Anarchical Society: A Study of Order in World Politics, 3rd edn., Basingstoke: Palgrave. 2002.
9. Navnita Chadha Behera, ed., International Relations in South Asia: Search for an Alternative Paradigm, New Delhi, Sage, 2008.
10. Scott Burchill et al, (2005), Theories of International Relations 3rd ed, Basingstoke: Palgrave Macmillan.
11. Chris Brown and Kirsten Ainley. (2005), Understanding International Relations, 3rd Ed., Palgrave:Macmillan
12. J. E. Dougherty and others. (1971), Contending Theories of International Relations New York:Philadelphia.

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POL.SC.-CC-205- WESTERN POLITICAL THOUGHT-II

(5 Credits-100 Marks)

Introduction: Philosophy and politics are closely intertwined. Students will be exposed to the manner in which the questions of politics have been posed in terms that have implications for larger questions of thought and existence. Contemporary western political philosophy and debates are introduced to the students here.

Learning Objectives:

- i. To introduce students the linkages between philosophy and politics

To provide students insights into the contemporary political debates in political philosophy

Expected Outcomes: Students will be able to:

1. Comprehend the larger questions of western political thought
2. Understand the contemporary debates in political philosophy.

UNIT-I: Hegel and Green

- 1.1 Hegel: Dialectical Idealism, Philosophy of History, Idea on Freedom and War, Theory of State, Civil Society
- 1.2 T.H. Green: concept of moral freedom, Concept on Rights, theory of State, foundations of political obligations

UNIT-II: Karl Marx and Lenin

- 2.1 Karl Marx: Dialectical Materialism, Historical Materialism, Theory of alienation, Class war, Theory of Surplus Value , Dictatorship of the Proletariat, State and Revolution
- 2.2 Lenin: Modification of Marxism, Concept of Imperialism, Theory of Revolution, Party System, Dictatorship of the Proletariat

UNIT-III: Mao Tse Tung, Antonio Gramsci, Hannah Arendt

- 3.1 Mao Tse Tung: New Democracy, cultural revolution ,Revolution and War
- 3.2 Antonio Gramsci- State and Civil Society, Historicism, Concept of Hegemony,
- 3.3 Hannah Arendt-The Human Condition and Plurality, Totalitarianism, Concept of Power

UNIT-IV: John Rawls and Robert Nozick

- 3.4 John Rawls- Political Liberalism ,Theory of Justice,
- 3.5 Robert Nozick-Libertarianism, Theory of Entitlement

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Ian Adams and R.W.Dyson (2004) Fifty Great Political Thinkers, London, Routledge
2. Terence Ball and Richard Bellamy (eds). (2003) Twentieth Century Political Thought, Cambridge:Cambridge University Press
3. Michael H. Lessnoff (1999): Political Philosophers of the Twentieth Century: An Introduction.
4. B. Nelson, (2008) _Western Political Thought‘. New York, Pearson Longman.
5. D. Boucher, and P. Kelly, (2003) (eds.) _Political Thinkers: From Socrates to the Present‘. New York, Oxford University Press.
6. Hannah Arendt, On Violence, CA: Harvest Books, 1970.
7. Arendt, Hannah (1951), *The Origins of Totalitarianism*, New York: HarvestArendt, Hannah (2009), On Revolution, Penguin Classics.
8. Rawls John (1971). A Theory of Justice. Cambridge, Mass :Harvad University Press.
9. Tom Bottomore et al (eds) : A Dictionary of Marxist Thought. The entry on –Gramscill David McLellan : Marxism after Marx. An Introduction. Chapter 14
10. Rawls John (1971). A Theory of Justice. Cambridge, Mass :Harvad University Press.
11. Tom Bottomore et al (eds) : A Dictionary of Marxist Thought. The entry on –Gramscill David

McLellan : Marxism after Marx. An Introduction. Chapter 14

12. Gramsci, Antonio (1996), 'Selections from the Prison Notebooks', Orient Longman, Hyderabad.
13. Simon, Roger (2015), Gramsci's Political Thought: An Introduction, London: Lawrence & Wishart Ltd; 3rd edition.
14. Lenin (1992). State and Revolution, New Delhi: Penguin.
15. Mao Tse-Tung. (2003), On New Democracy, University Press of the Pacific. Mao Tse-Tung. (2015), On Guerrilla Warfare, Alpha Editions

POL.SC.-CC-301- POLITICAL SOCIOLOGY

(5 Credits-100 Marks)

Introduction: Politics and society are intertwined with each other and are inseparable. The paper seeks to explore both the institutional and non-institutional dimensions of politics by discussing various non-institutional and socio-political processes that inform and influence politics.

Objectives: The paper seeks to:

- i. Sensitize students about the informal and non-institutional processes of politics and their role and functions.
- ii. Provide an in-depth understanding of various concepts and approaches to the study of Political Sociology

Learning outcomes:

- i. The students will be able to understand and explain the social context within which politics as a process operates and their influence on each other.

UNIT-I: Introduction to Political Sociology

- 1.1 Political Sociology: Meaning and Scope, Development and Approaches.
- 1.2 The Sociological Tradition and Political Sociology: Seminal Ideas of Karl Marx and Max Weber, Sociological Ideas of Emile Durkheim and Talcott Parsons.

UNIT-II: Basic Theories

- 2.1 Elite Theories of Democracy: Circulation of Elites, Mosca, Pareto, C. Wright Mills and Pluralistic Critique.
- 2.2 Social Stratification: Meaning, theories and bases

UNIT-III: Concepts

- 3.1 Political Socialization, Political Recruitment
- 3.2 Political Participation and Political Communication.

UNIT-IV: Politics-Society Interplay

- 4.1 Politics and Society, Nation and Society
- 4.2 Social Stability, Social Change, Political Role
- 4.3 Political Culture

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Amenta, Edwin, Kate Nash, Alan Scott, (2012), The Wiley-Blackwell Companion to Political Sociology, Oxford, Wiley Blackwell.

2. Roy, Shefali. (2014), Society and Politics in India Understanding Political Sociology, Delhi, PHILearning, 2014
3. Dasgupta, Samir. (2011), Political Sociology, New Delhi: Pearson Education India.
4. L.S. Rathore(ed) Political Sociology, Meenakshi, Press, Meerut, 1991
5. Keith Faulks, Political Sociology: A Critical Introduction, Edinburg University Press, Edinburg,1999.
6. Michael Rush, Politics and Society: An Introduction to Political Sociology, Harvester Wheatsheaf,New York, 1992.
7. Nagla, B.K.(ed), Political Sociology, Rawat publishers, New Delhi, 1999.Robert E. Dowse and John Hughes, Political Sociology, London 1972
8. Lucian Pye(ed) Communication and Political development, New Delhi, 1972
9. Gerth, H.H. and Mills, C.W.(ed), 1991, From Max Weber: Essays in Sociology, London, Routledgeand Kegan Paul, (Introduction)
10. J.K. Baral and S. Baral, Political Sociology, Vidhyapuri, 2009
11. Gerth, H.H. and Mills, C.W.(ed), 1991, From Max Weber: Essays in Sociology, London,Routledge.
12. Ali Ashraf and L.N. Sharma (1986), Political Sociology: a new grammar of Politics, New Delhi,University Press.
13. Mukhopadhyay, A.K. (1977), Political sociology: An introductory analysis, Kolkata: K.P. BagchiPublishers.

POL.SC.-CC-302- INDIAN FOREIGN POLICY IN THE CONTEMPORARY WORLD

(5 Credits-100 Marks)

Introduction: This course's objective is to acquaint students with the basic principles and determinants of India's foreign policy by giving an overview of its historical evolution and contemporary objectives. While giving a detailed understanding of India's evolving relations with the superpowers during the Cold War and after, bargaining strategy and positioning in international politics, the course will facilitate an understanding of the changing positions and development of India's role as a global player since independence.

Learning Objectives:

- i. To make the students understand the changing nature of India's foreign policy in contemporary times.
- ii. To assess India's relations with the major powers and its domestic concerns and challenge

Expected Outcomes: The students will be able to:

- i. Examine the role and relevance of the basic principles of India's foreign policy and its

- contemporary significance.
- ii. Debate and discuss the position of India as an emerging global power amidst its domestic concerns and challenges.
- iii. Get an insight into the factors affecting India's relations with the major powers.

UNIT-I : Basics of Indian Foreign Policy

- 1.1 India's Foreign Policy: Objectives, Principles and Determinants-Internal and External
- 1.2 Making of India's Foreign Policy: PMO, Parliament, MEA

UNIT-II: India's Relation with Major Powers

- 2.1 India's Relations with USA, Russia,
- 2.2 India's Relations with China and Japan

UNIT-III: India and its Neighbour

- 3.1 India's Relations with Neighbours-Pakistan, Bangladesh, Srilanka, Afganistan, Bhutan, Nepal, Maldives
- 3.2 India and Regional Cooperation: SAARC, ASEAN, Look East & Act East policy

UNIT-IV: New Trends

- 4.1 Recent Trends in Indian Foreign Policy
- 4.2 India's Approach to Major Global Issues : International Terrorism, Climate Change
- 4.3 India's Nuclear Policy, Energy Security

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Mohan, C. Raja. (2016). Modi's World: Expanding India's Sphere of Influence. Delhi: HarperCollins Publishers India.
2. Malone, David M., C. Raja Mohan, and Srinath Raghavan (eds.). (2015). Oxford Handbook on Indian Foreign Policy. UK: Oxford University Press.
3. Menon, Shivshankar. (2016). Choices: Inside the Making of India's Foreign Policy. Washington,DC: Brookings Institution Press
4. Harsh, V. Pant, (2016), India's Foreign Policy-An Overview, New Delhi: Orient Blackswan.
5. Sumit Ganguly (ed) (2016) -Engaging the World-Indian Foreign Policy since 1947, New Delhi, Oxford University Press
6. Deep K. Datta Ray, The Making of Indian Diplomacy. (New Delhi: Oxford University Press,2015), pp. 139-147.
7. Shiv Shankar Menon, Choices: Inside the Making of Indian Foreign Policy (New Delhi : PenguinBooks, 2016).
8. Gujral, I.K.(1998), A foreign policy for India, Delhi: External publicity division,

MEA, Government of India.

9. Bandyopadhyaya, J.(2006), The making of India's Foreign Policy, New Delhi: Allied Publishers Pvt. Ltd.
 10. Appadorai, A. and M.S. Rajan(1988), India's Foreign Policy and Relations, New Delhi: SouthAsian Publishers Pvt. Ltd.
 11. Ch. Ogden, (2011) International Aspirations_of a Rising Power_, in David Scott (ed.), Handbook of India's International Relations, London: Routledge,
 12. Muni, S.D.(2010), India's Foreign Policy the democracy dimension, New Delhi: Foundation Books.
 13. Ganguly, S. and Rahul Mukherji(2011), India since 1980, New Delhi: Cambridge University Press. Malone, David (2014) Does the Elephant Dance , OUP.
 14. Tharoor, Shashi. (2013). Pax Indica: India and the World of the Twenty- first Century. UK:Penguin.
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POL.SC.-CC-303- INDIAN POLITICAL SYSTEM-II

(5 Credits-100 Marks)

Introduction: This paper deals with concepts and different dimensions of democratic governance highlighting the major debates in the contemporary India. There is a need to understand the importance of the concept of governance in the context of a globalizing world, environment, administration, development. The essence of governance is explored through the various good governance initiatives introduced in India.

Learning Objectives : To introduce students

- i. to different dimensions of democratic governance
- i. to major debates on governance in the contemporary times
- ii. to the concept of governance in the context of a globalizing world
- iii. to good governance practices in India

Expected Outcomes: Students will be able to:

- i. Understand different dimensions of governance
- ii. Understand good governance practices in India

UNIT-I: Dynamics of Political Process

- 1.1 Nature of Party System: Emerging Trends, Role of Pressure Groups
- 1.2 Defection Politics and the Anti-Defection Law
- 1.3 Imperatives of Coalition Politics

UNIT-II: Electoral Process: Issues and Trends

2.1 Electoral System in India: Features, Elections -New Forces and Trends

2.2 Patterns and determinants of Voting Behaviour and Electoral Reforms

UNIT-III : Major Issues in Indian Politics

3.1 Identity Politics- Issues and Challenges: Religion, Tribe, Caste, Region and Language

3.2 Role of Civil Society, Gender ,Ethnicity, Environment in Indian Politics ,

UNIT-IV: Statutory Commissions and the issue of Globalisation in Indian Politics

4.1 National Commission for Scheduled Castes, National Commission for Scheduled Tribes, National Commission for Human Rights, National Commission for Women, National Commission for Minorities.

4.2 Liberalisation and Economic Reforms in India: Impact of Globalisation in Indian Politics

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Singh, M.P. and Rekha Saxena(2011), Indian Politics Constitutional Foundations and Institutional Functioning, New Delhi: Prentice Hall India Learning.
2. Fadia, B.L.(2011), -Indian Government and Politics, Agra: Sahitya Bhawan Publications.
3. P. Mehta and N. Jayal (eds.) (2010), The Oxford Companion to Politics in India, New Delhi:Oxford University Press.
4. G. Austin (2010), The Indian Constitution: Cornerstone of a Nation, New Delhi: Oxford University Press, 15th print.
5. P. Chibber and R. Verma (2018). Ideology and Identity: The Changing Party Systems of India, New Delhi: Oxford University Press.
6. P.R. DeSouza and E. Sridharan (eds.) (2006), India's Political Parties, New Delhi: Sage.
7. Arjan H. Schakel and Wilfried Swenden (2016) _Rethinking Party System Nationalization in India(1952-2014)_, Government and Opposition, Vol.53, No.1, pp.1-25.
8. Z. Hasan (ed.) (2002), Parties and Party Politics in India, New Delhi: Oxford University Press
9. B.D Dua, M.P Singh and Rekha Saxena (eds.) (2014) Indian Parliament: The Changing Landscape Delhi: Manohar, Delhi.
10. Brass, P.R.(2006), — The politics of India since Independence, Cambridge: Cambridge

University Press.

11. B.L. Shankar and Valerian Rodrigues (2014) The Indian Parliament: A democracy at work. New Delhi: Oxford University Press.
12. Kohli, Atul, et.al. Routledge Handbook of Indian Politics. New Delhi: Routledge, 2018. Khosla, Madhav et.al. The Oxford Handbook of Indian Constitution. New Delhi: Oxford University Press, 2016.
13. Jayal, Niraja Gopal. The Oxford Companion to Politics in India. New Delhi: Oxford University Press, 2011.
14. Frankel, Francine R. India's Political Economy 1947-2004 Second Edition, New Delhi: Oxford University Press, 2005.
15. Rudolph L. and S Rudolph. In Pursuit of Lakshmi: The Political Economy of the Indian State. Orient Blackswan, 1987.

POL.SC.-CC-304-RESEARCH METHODOLOGY

(5 Credits-100 Marks)

Objective: This Course offers familiarity with research tools and techniques in Social Sciences Research.

Outcome: Students would be able to identify relevant research problems along with hypotheses formation. They will be also get an understanding on how to apply different research tools to collect and analyse data.

UNIT-I: Introduction to Research

- 1.1 Meaning and Types of Research: Natural and Social science Research
- 1.2 Nature, importance and Utility and Problems of Social Science Research

UNIT-II: Empirical Research in Social Science

- 2.1 Scientific Method: Characteristics, Process and Limitation
- 2.2 Hypothesis: Meaning, Formulation and Functions
- 2.3 Data Collection Methods : Observation, Questionnaire, Schedule and Interview, Survey and Sampling

UNIT-III : Practical aspects in Research

- 3.1 Research Design
- 3.2 Steps in Writing of Dissertation, Research Paper and Monograph

UNIT-IV: Use of Computer in Research

- 4.1 Email, PPT, Internet Sources, Plagiarism Check, SPSS, Publication Opportunity

Note: Semester End Examination-80Marks(3 hours) & Mid-Semester examination-20 Marks (1 hour)

Question Pattern (Semester End Exam): Long answer type questions with alternative from each Unit

Suggested Readings :

1. Coughlan M., Cronin P. and Ryan F. (2007). Step-by-step guide to critiquing research. Part 1 quantitative research. British journal of Nursing 16 (11).
2. Creswell, JW. (1998). Qualitative Inquiry and Research Design Choosing Among Five Traditions. Thousand Oaks, CA: Sage Publications.
3. Crotty, M. (1998). The Foundations of social research: Meaning and perspective in the research process. London: Sage.
4. Kothari C., R. (2004). Research Methodology: Methods and Techniques. New Delhi. New Age International (P) Limited, Publishers.
5. Denzin, NK. (1978). Sociological Methods. New York: McGraw-Hill
6. Upagade Vijay and Shende Arvind(2015), "Research Methodology", S.Chand Publishing, New Delhi

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POL.SC.-OEC-305-INDIAN GOVERNMENT AND POLITICS

(5 Credits-100 Marks)

Introduction: This course will give an overview of the historical trajectory of the politics of India especially with regards to the making of the Indian Constitution. It will also acquaint the students with the structures and functions of the various political institutions in India.

Learning objectives:

- i. To acquaint students with the ideological and philosophical ethos and values of Indian Constitution.
- ii. To help students understand the actual functioning of various political institutions in India.

Expected Outcomes: Students will be able to:

- i. Understand and compare the philosophical and ideological basis of the Indian Constitution with the existing political institutions.
- ii. Comprehend the relevance of the long history of constitutional development in India.

UNIT-I: Background and Evolution of Indian Constitution

- 1.1 Overview of Various Acts between British Period
- 1.2 Formation and Working of Constituent Assembly
- 1.3 Making of the Indian Constitution: The Constituent Assembly -Background, Composition, Nature and its working
- 1.4 Ideological Contents: Preamble, Fundamental Rights and Directive Principles of State Policy
- 1.5 Doctrine of Basic Structure

UNIT-II: Principles, Rights and Duties

- 2.1 Preamble: Objectives and Principles

2.2 Fundamental Rights, Directive Principles of State Policy(DPSP), Fundamental Duties

UNIT-III: Central Institutional Structure

3.1 Legislative: Composition and Powers of Parliament

3.2 Executive : Role of President, Prime Minister and the Council of Minister

3.3 Judiciary: Powers and Functions of Supreme Court

3.4 Major Constitutional Bodies: Election Commission, Union Public Service Commission(UPSC)

UNIT-IV: State Institutional Structure

4.1 Legislative: Composition and Powers of State Legislative Assembly

4.2 Executive: Role of Governor, Chief Minister and the Council of Minister

4.3 Judiciary: Powers and Functions High Court

4.4 Major Constitutional Bodies: State Election Commission, State Public Service Commission

Note: Semester End Examination-100 Marks (3Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Singh, M.P. and Rekha Saxena (2011), Indian Politics Constitutional Foundations and Institutional Functioning, New Delhi: Prentice Hall India Learning.
2. Fadia, B.L.(2011), -Indian Government and Politics, Agra: Sahitya Bhawan Publications.
3. Pylee , M.V.(2003), -Our Constitution Government and Politics, New Delhi : Universal Law Publishing Co.
4. Bakshi, P.M.(2015), -The Constitution of India, Delhi: Universal Law Publishing Co. Pvt. Ltd.
5. Austin, Granville (1999), -Working A Democratic Constitution: The Indian Experience, Delhi: OUP.
6. Bhagwan, V & Vandana Mohla(2007), -Indian Government and Politics, New Delhi: Kalyani Publishers.
7. Brass, P.R.(2006), — The politics of India since Independence, Cambridge: Cambridge University Press
8. Jayal, N.G. & Pratap Bhanu Mehta(eds.)(2010), — The Oxford Companion to Politics in India, New Delhi: Oxford University Press.
9. Weiner, Myron (1989), -The Indian paradox Essays in Indian Politics, New Delhi: Sage Publications India Pvt. Ltd.
10. S. Kashyap (2017), Our Constitution: An Introduction to India's Constitution and Constitutional Law, New Delhi: National Book Trust.

11. M. P. Singh and Rekha Saxena. (2015) Federalizing India in the Age of Globalization, New Delhi: Primus Books
12. D.D. Basu (2012), Introduction to the Constitution of India, New Delhi: Lexis Nexis
13. Kohli, Atul, et.al. Routledge Handbook of Indian Politics. New Delhi: Routledge, 2018
14. Khosla, Madhav et.al. The Oxford Handbook of Indian Constitution. New Delhi: Oxford University Press, 2016.
15. Jayal, Niraja Gopal. The Oxford Companion to Politics in India. New Delhi: Oxford University Press, 2011.

POL.SC.-CC-401-PUBLIC POLICY AND GOVERNANCE

(5 Credits-100 Marks)

Introduction: The paper seeks to provide an introduction to the interface between public policy and governance. The essence of public policy lies in its effectiveness in translating the governing philosophy into programmes and policies and making it a part of the community living. It deals with key concepts, typology and process of public policy.

Learning Objectives:

- i. To introduce students with to the interface between public policy and governance

Expected Outcomes: Students will be able to:

- i. Comprehend the basic concepts and understanding of public policy and governance

UNIT-I: Public Policy: Key Concepts and Theories

- 1.1 Public Policy: Meaning, Scope and Significance
- 1.2 Rationale for the study of Public Policy
- 1.3 Evolution of Public Policy
- 1.4 Public Policy Theories- Group Theory, Elite Theory, Institutional Theory, Rational Theory, Process Theory and Institutional Theory

UNIT-II: Policy, Typology and Instruments

- 2.1 Distributive Policies, Regulatory Policies, Redistributive Policies
- 2.2 Substantive Vs. Procedural Policy, Material Vs. Symbolic Policies, Public Vs. Private Policies

UNIT-III: Public Policy Cycle

- 3.1 Five Stages of Public Policy Making- Agenda Setting, Policy Formulation, Policy Legitimation (Policy Approval), Policy Implementation and Policy Evaluation
- 3.2 Policy Making Styles/Levels – Top-Down and Bottom-Up
- 3.3 Merits and Demerits of the Styles

UNIT-IV: Public Policy Environment and Policy Actors

- 1.1 Context: Political, Economics, Social and Cultural Context
- 1.2 Policy Actors: Elected Politicians, Public, Bureaucracy, Political Parties, Interest/Pressure Group, International Actors Regimes

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Prabir Kumar De, Public Policy and Systems, Pearson Education India, New Delhi, 2012.
2. RK Sapru, Public Policy – Formulation, Implementation and Evaluation, Sterling Publishers Pvt. Limited., New Delhi, 2010.
3. RV Vaidyanatha Ayyar, Public Policy Making in India, Pearson Education India, New Delhi, 2009.
4. Ashok Agarwal (Ed.), Governance - Case Studies, University Press India Pvt. Limited, Hyderabad,2007.
5. Ayyar, R.V. Vaidnatha. A Public Policy Making in India. New Delhi: Pearson, 2012.
6. Birkland Thomas A. An Introduction to the Policy Process. M.E. Sharpe, 2011
7. De, P.K. Public Policy and Systems. New Delhi: Pearson, 2012.
8. Dreze, Jean (ed). Social Policy. New Delhi: Orient Blackswan, 2016.
9. G Desai, Information Growth and Economic Growth, Rawat Publications, Jaipur, 2005.

POL.SC.-CC-402- SOCIAL AND POLITICAL MOVEMENTS IN INDIA

(5 Credits-100 Marks)

UNIT-I :Introduction to Social and Political Movement

- 1.1 Social and Political Movements : Concepts, Types and Significance
- 1.2 Social and Political Movements in India: Background, Nature and Issues

UNIT-II: Major Movements : Issues and Dynamics

- 2.1 Peasant and Tribal Movements: Issues and Dynamics
- 2.2 Civil Rights Movements: Growth, Issues and Dynamics
- 2.3 Dalit and Backward Caste Movements: Issues, Leaderships and Organizations.

UNIT-III : Contemporary Movements

- 3.1 Women’s Movement: Gender Justice and Empowerment,
- 3.2 Challenges to Women’s Movement-Fundamentalism, Caste, Violence, and Moral Policing.
- 3.3 Environmental Movements: Chipko Movement, Silent Valley Movement & Narmada Bachao Andolan.

UNIT-IV: State, Civil Society and Social Movements

4.1 State, Civil Society and Social Movements in India.

4.2 An Overview of New Social Movements in India

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Basu, Amrita (edited): The Challenge of Local Feminism: Women's Movements in Global Perspective, New Delhi, 1999.
2. Shah Ghanshyam : Social Movements and the State, Sage Publications, New Delhi, 2002.
3. Shah Ghanshyam : Social Movements in India: A Review of the Literature, Sage Publications, New Delhi, 1990.
4. Mohanty Manoranjan (ed): Caste, Class and Gender, Sage Publications, New Delhi, 2004
Oommen, T.K., (ed): Social Movements (Vol I and Vol II) OUP, New Delhi, 2010.
5. Gail, Omvedt: Reinventing Revolution: New Social Movements and the Socialist, 1993
Wilkinson Paul: Social Movements.
6. Rao, M.S.A., Social Movements in India, New Delhi, Manohar, 1981.
7. Desai, Neera (ed.), Decade of Women's Movement in India, Bombay Himalaya Publishing House, 1988.
8. Shah Ghanshyam , Caste and Democratic Politics in India, Delhi: Permanent Black , 2008.
9. Jaffrelot, Christophe India's Silent Revolution: The Rise of the Low Castes in North Indian Politics, Delhi: Permanent Black, 2011.
10. M.V. Nadarkarni : Farmer's Movement in India, Allied, New Delhi, 1987.
11. T. K. Oommen : Nation, Civil Society and Social Movements, Sage, Delhi, 2004.
12. Rajendra Singh (ed.): Social Movement, Old and New: A Post-Modern Critique, Sage Publishers, New Delhi, 2001.

POL.SC.-EC-403A-HUMAN RIGHTS: CONCEPTS AND ISSUES

(5 Credits-100 Marks)

UNIT-I: Perspectives of Human Rights

- 1.1 Concept of Human Rights
- 1.2 Indian Idea of Human Rights
- 1.3 Perspective of Human Rights – Indian (Stress on Duties) And Western (Stress on Rights)

UNIT-II : Basics of Human Rights

- 2.1 Nature and Scope of Human Rights
- 2.2 Origin And Evolution of Human Rights In West- Three Generations
- 2.3 Theories of Human Rights
- 2.4 Classifications of Human Rights

UNIT-III: Administration of Human Rights at Global Level

- 3.1 United Nation and Human Rights
- 3.2 Universal Declaration of Human Rights
- 3.3 Major Conventions on Human Rights
- 3.4 International Protections of Human Rights
- 3.5 Administration of Human Rights in India- Constitutional Provisions, National Human Rights Commission(NHRC) and State Human Right Commissions(SHRC)

UNIT-IV: Human Rights in India : Issues and Problems

- 4.1 Rights of Dalits,women,Children
- 4.2 Challenges before Human Rights
- 4.3 Suggetions for promotion of Human Right

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

- 1 Human Rights: An Introduction- D.O’Byrne
- 2 What are Human Rights? –M.Cranston
- 3 Rethinking Human Rights-S.Kothari & H.Sethi(Ed.)
- 4 Making sense of Human Rights: Philosophical Reflection on UDHR- J.Nickel
- 5 The UDHR: Origin, Drafting & Intent – J.Morsink
- 6 Weapons of the Oppressed: Inventory of People’s Right in India -M.Mohanty(ed.)

POL.SC.-EC-403B-PEACE AND CONFLICT STUDIES

(5 Credits-100 Marks)

UNIT-I: Concept of Peace: Meaning and Approaches

- 1.1 Peace: The Concept and Philosophical Foundation
- 1.2 Various Approaches to Peace: Hegemonic Stability; Functionalism and Regionalization
- 1.3 Gandhian Approach to Peace

UNIT-II: Concept of Security and its it’s changing Dimensions

- 2.1 Concept of Security and its changing dimensions
- 2.2 Conflict and Conflict Resolution
- 2.3 Ethnic Conflicts, Global Terrorism

UNIT-III: Internal Security and Its Challenges

- 4.4 Internal Security Challenges and Low intensity Conflicts
- 4.5 Internally Displaced persons, Refugees and the International Response
- 4.6 Women in Peace and conflict situations

UNIT-IV: Peace Making and Peace Keeping Process

- 4.1 Pacific Settlement of disputes and the UN system
- 4.2 Peace Making and Peace Keeping Operations
- 4.3 Peace Movements

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

- 1 The Anarchical Society-Hedley Bull
- 2 The Quest for Peace-Vayrynen (ed.)
- 3 Political Community- Deutsch(ed.)
- 4 Grasping the Democratic Peace: Principles for a Post-Cold war World- Bruce Russett
- 5 Powerful Peace Making: A Strategy for a Living Revolution-George Lackey
- 6 Beyond Charity-International Cooperation and the Global Refugee Crisis- G. Loescher

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POL.SC.-EC-403 C-DEMOCRACY AND GOVERNANCE IN INDIA

(5 Credits-100 Marks)

UNIT-I: Concept of Democracy

- 1.1 Democracy: A Historical Overview, Democracy and its Types.
- 1.2 Theories of Democracy

UNIT-II: Democracy in India

- 2.1 Democracy in India: Origin and Growth
- 2.2 Major Democratic Institutions in India

UNIT-III: Democracy and Rural Local Governance

- 3.1 Grass-roots Democracy: Rural Local Self-Governments: Structure, Functions and Finances

UNIT-IV: Democracy and Urban Local Governance

4.1 Grass-roots Democracy: Urban Local Self-Governments: Structure, Functions, and Finances.

4.2 Democracy in India: Performance, Issues and Challenges.

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)
Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Readings:

- 1 Bakshi, P.M.(2015), –The Constitution of India, Delhi: Universal Law Publishing Co. Pvt. Ltd.
- 2 Fadia, B.L.(2011), –Indian Government and Politics, Agra: Sahitya Bhawan Publications.
- 3 F.Frankel, Zoya Hasan, R.Bhargava and B.Arora (ed.), Transforming India: Social and Political Dynamics of Democracy.
- 4 Rajni Kothari, Rethinking Democracy, Hyderabad: Orient Longman, 2005.
- 5 Atul Kohli (ed.), The Success of India's Democracy, Cambridge University Press, Cambridge, 2001.
- 6 L.Rudolph and S.Rudolph, Explaining Indian Democracy: A Fifty-year Perspective, 1956-2006, Vol.2.
- 7 Jayal, Niraja Gopal. The Oxford Companion to Politics in India. New Delhi: Oxford University Press, 2011.
- 8 Kapur, Devesh, et.al. Rethinking Public Institutions in India. New Delhi: Oxford University Press, 2017
- 9 Austin, Granville (1999), Working A Democratic Constitution: A History of the Indian Experience, Delhi: OUP.

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POL.SC.-EC-403D-INDIAN ADMINISTRATION

(5 Credits-100 Marks)

UNIT-I: Evolution of Indian Administration

- 1.1 Evolution of Indian Administration ; Legacy of British Rule
- 1.2 Constitutional Framework of the Government ; Working of Parliamentary democracy, Legislature-Executive relationship
- 1.3 Administrative relationship between Centre and States-Issues and Trends

UNIT-II: Structure of Central and State Administration

- 2.1 Structure of Administration: Central Secretariat, Cabinet Secretary and the PMO
- 2.2 State Secretariat: Chief Secretary
- 2.3 Public Sector Undertakings- Forms, Problem of Accountability and control

UNIT-III: Personnel Administration

- 3.1 Public Services : Recruitment and Training of All India Services & Central Services
- 3.2 Recruitment and Training of State Services
- 3.3 Code of Conduct and Discipline : Grievance Redress Mechanism

UNIT-IV: Constitutional Bodies

- 4.1 Machinery for Planning: Planning Commission/NITI Ayog, National Development Council

- 4.2 Administrative Reforms : Reports of Administrative Reform Commission, Problems of Implementation
- 4.3 Accounting and Audit Technique : Role of Comptroller and Auditor General of India

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

- 1 Indian Administration – Ashok Chandra
- 2 Indian Administration – S.R. Maheswari
- 3 Ideas and Issues in Indian Administration- H.Rai & S.P.Singh
- 4 Evolution of Indian Administration – S.R.Maheswari
- 5 Contemporary Issues in Indian Administration – R.B.Jain
- 6 Indian Administration – Avasthi & Avasthi (2006)
- 7 Administrative Reforms in India – R.K.Arora
- 8 The Civil Services in India- S.K.Das
- 9 Indian Public Administration – Ramesh Arora & Rajani Goyal
- 10 Administrative Change in India – Ramesh Arora(ed.)
- 11 Public Administration in India –C.P.Bhambri

POL.SC.-EC-404A-MODERN INDIAN POLITICAL THINKERS

(5 Credits-100 Marks)

UNIT-I : Socio-Political ideas of Rammohan Roy and Dayananda Saraswati

- 1.1 Raja Rammohan Roy : Father of Renaissance, Social Reforms, Liberalism, Nationalism
- 1.2 Dayananda Saraswati : Social Reforms, Vedic Swaraj

UNIT-II: Political goals and Techniques of Gokhale and Tilak

- 2.1 Gopal Krishna Gokhale- Political goals and Political Techniques
- 2.2 Bal Gangadhar Tilak-Political goals and Political Techniques

UNIT-III: Political Ideas of Jawaharlal Nehru and Subhas Chandra Bose

- 3.1 Jawaharlal Nehru: Democratic Socialism, Secularism, Nationalism, Internationalism
- 3.2 Subhas Chandra Bose : Nationalism

UNIT-IV: Socio-Political Ideas of M.K.Gandhi ,B.R.Ambedkar and J.P.Narayan

- 4.1 Mahatma Gandhi: Swaraj ,Satyagraha ,Relevance of Gandhism today
- 4.2 Dr.B.R.Ambedkar:Social Justice, Leader of Depressed Class
- 4.3 Jay Prakash Narayan- Socialism, Participatory Democracy, Total Revolution

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

- 1 Modern Indian Political Thought- S.P.Verma
- 2 Modern Indian Thought – V.S.Narvane
- 3 Indian Thought –A critical Survey-K.Damodaran
- 4 Political thought in Modern India – Pantham & Deutsch (Ed)
- 5 An Intellectual History for India – Sh.Kapila(ed)
- 6 The Extremist Challenge- A.Tripathy
- 7 A History of Indian Political Ideas – U.N.Ghosal
- 8 Indian Political Tradition – J.K.Baral
- 9 Indian Political Tradition –B.C.Rout
- 10 Indian Political Tradition- D.K.Mohanty
- 11 Indian Political Thought-Themes and Thinkers-Himanshu Roy&M.P.Singh
- 12 Indian Political Thought – O.P.Gauba

POL.SC.-EC-404B-PUBLIC POLICY STUDIES

(5 Credits-100 Marks)

UNIT-I: Public Policy: Meaning, Nature and Scope

- 1.1 Nature and Scope of Public Policy
- 1.2 Determinants of Public Policy
- 1.3 Values and Ethics in Public Policy

UNIT-II: Policy Making Process

- 2.1 Policy Making Process: Role of Legislature
- 2.2 Policy Making and the Role of Legislature
- 2.3 Policy Making and the Role of Legislature
- 2.4 Policy Making and the Non-state Actors: Problems of Policy Making

UNIT-III: Process of Policy Implementation

- 3.1 Nature and process of Policy Implementation
- 3.2 Models of Policy Implementation
- 3.3 Problems of Policy Implementation

UNIT-IV: Policy Analysis

- 4.1 Policy Analysis and Policy Evaluation
- 4.2 Feasibility Analysis and Substantive Analysis

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

- 1 Public Policy and politics in India- Kuldeep Mathur(2013)
- 2 Public Policy and Systems –Prabir Kumar De (2012)
- 3 Public Policy-Formulation, Implementation& Evaluation- R.K.Sapru
- 4 Public Policy Making in India – R.V.Vaidyanatha Ayyar
- 5 Understanding Public Policy –Thomas Dye (1995)
- 6 Policy Making in India-An Approach to Organisation – Krishnan Saigal
- 7 The Policy Sciences – Horald Laswell and D.Learner
- 8 Public Policy Making : An Introduction – James Anderson
- 9 Analyzing Public Policy: Concepts,Tools and Techniques – Dipak Gupta(2010)
- 10 Analyzing Public Policy : Peter john(2010)

POL.SC.-EC-404C-WOMEN AND POLITICS IN INDIA

(5 Credits-100 Marks)

UNIT-I: Status and Role of Women in India

- 1.1 Status of Women in pre-Independent India
- 1.2 Status of Women in post-Independent India
- 1.3 Women in Freedom Movement
- 1.4 Role of Women in Social Movements

UNIT-II: Women Empowerment: Issues and Initiatives

- 2.1 Women Empowerment : Meaning and Dimensions
- 2.2 Political Empowerment of Women; Women’s Suffrage
- 2.3 Reservation for Women-The Debate

UNIT-III: Women Issues in Indian Politics

- 3.1 Women Leadership – Nature and Limitations
- 3.2 Women in Local Bodies
- 3.3 Women and Human Rights in India
- 3.4 Violence against Women

UNIT-IV: Women and Economic Empowerment

- 4.1 Women and Economic Empowerment
- 4.2 Building Capacities for Women
- 4.3 Women and Development Process

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Reading:

1. Haleh Arshar (ed.) *Women and Politics in the Third World*, London: Routledge. 1996 United Nations
2000 *The World’s Women 2000: Trends and Statistics*, New York: United Nations

2. Vandana Shiva, *Staying Alive: Women Ecology and Development in India*, New Delhi: Kali for Women, 1998
3. Vandana Shiva (ed) *Close to Home: Women Reconnect, Ecology, Health and Development Worldwide*, Philadelphia New Society Publishers 1994
4. Geetha, V. (2002) *Gender*, Stree Publications, Kolkata
5. Menon, Nivedita (ed) (2000) *Gender and Politics in India*, Oxford University Press, Delhi.
6. Patel, Sujata et al (eds) (2003) *Gender and Caste: Issues in Contemporary Indian Feminism*, Kalifor Women, Delhi.

POL.SC.-EC404D- STATE AND LOCAL ADMINISTRATION IN INDIA WITH SPECIAL REFERENCE TO ODISHA

(5 Credits-100 Marks)

UNIT-I: State Machinery

- 1.1 State Machinery: Executive at the State Level: Governor, Council of Ministers, Chief Minister, Legislature: Vidhan Sabha: Composition and Functions.
- 1.2 Judiciary: High Court.
- 1.3 Lokayukt, State Information Commission

UNIT II: State Administration

- 2.1 Odisha Secretariat: Structure and Functions, Chief Secretary, Development Commissioner
- 2.2 State Administration: Board of Revenue: Role and Functions, Revenue Divisional Commissioner: Role and Functions; Mo Sarkar.

UNIT- III: District Administration

- 3.1 District and Administration: Role of the Collector and the B.D.O.

UNIT- IV: Local Administration

- 4.1 Urban Local Governance: Historical Evolution of Urban Local Governance in India, Urban Governance in Odisha: 74th Constitutional Amendment Act, Municipal Corporation, Municipality, NAC: Structure, Functions and Finance, Reforms in Urban Governance.
- 4.2 Rural Local Governance: Historical Evolution of Rural Local Governance in India, Rural Government in Odisha: PRI Institutions, 73rd Constitutional Amendment Act, Reforms in Rural Governance and PESA Act.

Note: Semester End Examination-80 Marks(3Hours)& Mid-Semester Examination-20 Marks(1Hours)

Question Pattern (Semester End Examination): Long answer type questions with alternative from each unit

Suggested Books:

1. S.R. Maheswari, Local Government in India, Lakshmi Narain Agarwal, 2008.
2. Niraja Gopal Jayal and others, Local Governance in India – Decentralisation and Beyond, Oxford University Press, 2006.
3. Subrata K. Mitra. 2001. Making local government work: Local elites, Panchayati raj and governance in India, in: Atul Kohli (Ed.). The Success of India's Democracy. Cambridge: Cambridge University Press.
4. Ghosh, Buddhadeb & Girish Kumar-State Politics and Panchayats in India New Delhi: Manohar Publishers, 2003
5. Sudhakar, V. New Panchayati Raj System: Local Self-Government Community Development - Jaipur: Mangal Deep Publications, 2002.
6. Biju, M.R.- Decentralisation: an Indian experience, Jaipur: National Pub., 2007
7. Sachdeva, Pardeep, Local Government in India, Dorling Kindersley (India) Pvt. Ltd, New Delhi, 2011
8. Evelin Hurst and Michael Mann (2005), Urbanization and Governance in India, Manohar, New Delhi.
9. ISA Baud and J Dewit, New Forms of Urban Governance in India - Shifts, Models, Networks and Contestations, Sage, New Delhi, 2008.
10. Amreswar Mishra. (1986), *Urban Government and Administration in India-*, Anu Books, Meerut

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POL.SC.-CC-405-DISSERTATION

(5 Credits-100 Marks)

1. Every student shall have to do project work/dissertation under supervision of a teacher (preferably regular) of the department concerned.
2. The dissertation topic and the name of the Supervisor shall be assigned to the student by the Head of the Department in consultation with other teachers of the Department during the 3rd Semester to enable the students to plan and carry out the work and complete the same before the commencement of 4th Semester Examination.
3. The distribution of Marks is as follow: 75 Marks for dissertation Write-up or Project work and 25 marks for presentation and viva voce. However, consolidated marks out of 100 shall be reflected in the mark sheet and that is to be submitted to the COE accordingly.
4. The dissertation must be typed in one side of A-4 size papers and the model thesis/write up shall not be less than 5000 words.
5. The thesis/write up shall be based on the basic standard steps of Research Methodology.
6. The date of the presentation /viva voce shall be notified by the HOD in consultation with COE.

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**STATE MODEL SYLLABUS FOR
UNDER GRADUATE
COURSE IN PSYCHOLOGY
(Bachelor of Arts Examination)**

UNDER CHOICE BASED CREDIT SYSTEM

PSYCHOLOGY

Framework of CBCS Syllabus for PSYCHOLOGY (Honours) from 2019-20					
Full Forms of Course Codes Used: CC = Core Course, AECC = Ability Enhancement Compulsory Course, SEC = Skill Enhancement Course, DSE = Discipline Specific Elective (Related to Core Subject), GE = Generic Elective (Not related to Core Subject; 2 different subjects of 2 papers each). Total Marks: CC (1400) + AECC (200) + SEC (200) + DSE (400) + GE (400) = 2600					
Semester	CC 14 papers 100 X 14 = 1400; Credits=14x6=84	AECC 2 Papers 100 X 2 = 200 Credits=4x2=8	SEC 2 Papers 100 X 2 = 200 Credits=4x2=8	DSE 4 Papers 100 X 4 = 400 4x6=24 credits	GE 4 Papers 100 X 4 = 400 4x6=24 credits
I	CC-I: Introductory Psychology CC-II: Basic Developmental Processes	AECC-I: MIL Communication (Odia/English)			GE Paper-I: Introductory Psychology
II	CC-III: Basic Psychological Processes CC – IV: Processes of Human Empowerment	AECC-II: Environmental Science			GE Paper-II: Basic Developmental Processes
III	CC – V: Statistics CC – VI: Social Psychology CC – VII: Environmental Psychology		SEC-I:		GE Paper-III: Basic Psychological Processes
IV	CC – VIII: Psychopathology CC – IX: Educational Psychology CC – X: Psychological Assessment		SEC-II:		GE Paper-IV: Processes of Human Empowerment
V	CC – XI: Organizational Behavior CC – XII: Health Psychology			DSE-I: Psychological Research and Measurement DSC-II: Ethics, Integrity and Aptitude	
VI	CC – XIII: Counseling Psychology CC – XIV: Positive Psychology			DSC-III: Psychology of the Disability DSC-IV: Project & Field work/ Psychology of Crime	

PSYCHOLOGY Papers for HONOURS Students

Core course – 14 papers, Discipline Specific Elective – 4 papers, Generic Elective for non-psychology honours students – 4 papers. In case University offers 2 subjects as GE, then papers 1 and 2 will be the GE paper.

Scoring System for Papers with Practical:

Marks per paper - Midterm: 15 marks, Practical: 25 marks, End term: 60 marks, Total: 100 marks, Credit per paper – 6, Teaching hours per paper – 40 hours theory + 20 hours practical

Scoring System for Papers without Practical:

Marks per paper - Midterm: 20 marks, End term: 80 marks, Total: 100 marks, Credit per paper – 6, Teaching hours per paper – 50 hours + 10 hours tutorial

Core Paper- I INTRODUCTORY PSYCHOLOGY

Introduction: The course is designed to provide the student a basic understanding of the psychology of human behavior. The students will be given exposure to concepts, terminology, principles, and theories that comprise an introductory course in psychology.

Learning Objectives:

- To help the students know the sources and processes of development of modern scientific psychology.
- To help the students develop a scientific temperament in studying and understanding human behavior.

Expected outcomes: Students will be able to

- Define the term psychology and demonstrate command of the basic terminology, concepts, and principles of the discipline.
- Gain knowledge of scientific methodology—the variety of ways in which psychological data are gathered and evaluated / interpreted.
- Identify and compare the major perspectives in psychology: Recognize how each approach views human thought and behavior.
- Understand the physiological and biochemical links of human behavior.

UNIT-I: Introducing Psychology

- (i) Concept and definition of psychology, Roots of psychology, Psychology as a scientific discipline.
- (ii) Key Perspectives in Psychology- Behavioral, Cognitive, Humanistic, Psychodynamic, and Socio-cultural.

UNIT- II: Methods in Psychology

- (i) Natural Observation, Survey and Case Study - Nature, advantages and limitations.
- (ii) Experimental and Correlational methods -Nature, advantages and limitations.

UNIT –III: Biological Bases of Behavior

- (i) Structure and functions of the neurons, Communication within and between neurons, Chemical regulation of the endocrine glands.
- (ii) Structure and functions of the Central nervous system and Autonomic nervous system

UNIT-IV: States of Mind

- (i) Nature of consciousness; changes in consciousness- sleep-wake schedules
- (ii) Extended states of Consciousness - Hypnosis, Meditation and Hallucinations

Practical:

- (i) **R.L. by Method of Limits:** To find out the R. L. of volar surface of the right arm of a subject by method of limits
- (ii) **D.L. by Method of Constant Stimuli:** To find out the D.L. for lifted weight of your subject by method of constant stimuli.

Text Books:

- Baron, R. A. (2002). Psychology (5th Edition), New Delhi: Pearson Education.
- Hilgard & Atkinson- Introduction to Psychology (2003) 14th Edition, Thomson Learning Inc.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Morgan, C.T., King, R.A., Weisz, J.R., & Schopler, J. (2008). Introduction to psychology (7th edition) Bombay: Tata-McGraw Hill.
- Feldman, R.S. (2004). Understanding Psychology (6th Edition), New Delhi, Tata-McGraw Hill.

Core Paper-II
BASIC DEVELOPMENTAL PROCESSES

Introduction: The course is designed to expose students to a basic understanding about the fundamental concerns of developmental psychology and provide examples of the following three dimensions of development: growth, differentiation, and orderly progression.

Learning Objectives:

- To help students gain some key ideas about human development and the perspectives to understand and explain such developments.
- To help the students understand the significance of prenatal period for human development.
- To help the students understand the developmental preparations of the childhood and the implications of developmental milestones for the normal human development.

Expected outcomes: Students will be able to

- Understand the nature, types, and principle of development.
- Understand the processes of formation of life and development during pre- and post-natal periods.
- Understand about the different aspects of preparation for future life.

UNIT-I: Basics of development

- (i) Meaning, nature, and types of development; Principles of development; Factors influencing development
- (ii) Perspectives of development- Psychoanalytic; Mechanistic; Organismic; Humanistic

UNIT- II: Life in formation

- (i) Fertilization, determination of sex, multiple birth; Prenatal development- germinal stage, embryonic stage, fetal stage; Factors influencing prenatal development. Impact of perinatal processes on development
- (ii) Physical and motor developments, Social and emotional developments during childhood.

UNIT –III: Life in preparation

- (i) Physical and motor developments, Social and emotional developments during adolescence.
- (ii) Piaget's stage of cognitive development; Kohlberg's stages of moral development

Unit- IV: Self and identity

- (i) Emergence of self; Structure of the self; Development of personal identity
- (ii) Development of self-control; Development of gender differences and gender roles

Practical:

- (i) **Locus of Control:** To assess the Locus of Control of four college students by using Rotter's Locus of Control Scale.
- (ii) **Emotional Intelligence:** To measure the emotional intelligence of four college students by using the Schutte's Emotional Intelligence Scale.

Text Books:

- Sigelman, G.K. & Schaffer, D.R. (1995). Life-span Human Development, Brooks / Cole Publishing Co. Pacific Grove, California
- Berk, L. E. (2010). Child Development (8th Ed.). New Delhi: Prentice Hall.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, Divya Prakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Papalia, Diane E., Sally Wendos Olds (2006). Human Development. 9th Edition. New Delhi: Tata McGraw Hill
- Baron, R. A. (2002). Psychology (5th Edition), New Delhi, Pearson Education.

Core Paper III BASIC PSYCHOLOGICAL PROCESSES

Introduction: The course is designed to provide the student a basic understanding of the psychological processes from sensation to thought and communication. The student will be given exposure to the concepts, terminology, principles, and theories relating to each of the mental processes that constitute human psychology.

Learning Objectives:

- To help the students to understand the mental processes to begin with sensation and perception up to how it results in thoughts and communication.
- To help the students gather knowledge about the structural and functional dynamics of each of the mental processes and their interconnectedness.

Expected outcomes: Students will be able to

- Understand the basic sensory actions and the processes of integration of sensory actions in creating and interpreting perceptual events.
- Gain knowledge of the important processes and principles of human learning as well as the structural functional attributes of human memory to help conserve the learning outcomes.
- Understand the structural and functional properties of language and the way it helps thought, communication, problem solving and decision making through development of concepts, ideas, images, and so on.

UNIT-I: Sensation and Perception

(i) Basics of sensation- Sensory receptors (eye and ear), transduction, sensory thresholds, and sensory adaptation

(ii) Nature of perceptual process- Figure and ground, Grouping (Gestalt laws), Perceptual constancies, and illusions, Perception of distance and depth.

UNIT- II: Learning and Memory

(i) Nature and principles of Classical conditioning, Operant conditioning, and Observational learning

(ii) The Atkinson and Shiffrin Model of Memory; Types of Memory- episodic, semantic and procedural; Causes of Forgetting- interference, repression, and amnesia

UNIT –III: Language and Communication

(i) Properties and structure of language, Linguistic hierarchy, Language acquisition- predisposition, Nature of effective communication

(ii) Stages of language development; critical period controversy; speech error and its implications

UNIT- IV: Thinking and Reasoning

(i) Thinking process; concepts, categories and prototypes, Decision making and factors of influencing decision making.

(ii) Inductive and deductive reasoning; Problem solving approaches; Steps in problem solving

Practical:

(i) **Learning Curve:** To demonstrate the Learning Curve as a function of Learning trials using Non-sense Syllables.

(ii) **Serial Position Effect:** To demonstrate the serial position effect on memory in learning a list of nonsense syllables.

Text Books:

- Baron, R. A. (2002). Psychology (5th Edition), New Delhi, Pearson Education.
- Feldman, R.S. (2004). Understanding Psychology (6th Edition), New Delhi, Tata Mc. Graw Hill.
- Dash, U.N., Dash, A.S., Mishra, H.C., Nanda, G.K. & Jena, N. (2004). Practical Exercises in Psychology: Learning about Yourself and Others. Panchasila, Bhubaneswar

- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, Divya Prakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Morgan, C.T., King, R.A., Weisz, J.R., & Schopler, J. (2008). Introduction to psychology (7th edition) Bombay: Tata-McGraw Hill.

**Core Paper-IV
PROCESSES OF HUMAN EMPOWERMENT**

Introduction: Human empowerment is ultimately an individual condition of gaining the power to control and modulate changes in one's own life those are considered important to one's identity and adjustment. The purpose of the course is to introduce to the students the basics of human empowerment and how the empowerment processes are strengthened and improved.

Learning Objectives:

- To help students gain ideas about intelligence and personality as foundations of human empowerment.
- To make students understand how motivation and emotion are empowering processes to human development.
- To help students gain insight into human behavior as products of empowerment.
-

Expected outcomes: Students will be able to

- Know the structural components and functional dynamics of both intelligence and personality.
- Understand the significance of emotion and motivation in behavior management.
- Understand significant aspects of social behavior as resulting in happiness, well-being and personal growth.

UNIT-I: Basics of empowerment

- (i) Intelligence- Heredity, environment, and intelligence, Theories of Gardner, Stenberg, & PASS
- (ii) Measuring Intelligence: intelligence tests; Interpretation of test score, Cross-cultural issues in testing intelligence

UNIT- II: Sources of Power (1)

- (i) Personality- Freud's theory, and Social cognitive theory
- (ii) Personality-Trait and type approach, Biological and sociocultural determinants, Psychometric and projective assessment.

UNIT –III: Sources of Power(2)

- (i) Motivation-Drive theory, Arousal theory, Expectancy theory, Maslow's need hierarchy
- (ii) Emotion-Theories of James-Lange, Cannon-Bard, & Schachter-Singer

UNIT –IV: Proving empowered

- (i) Social behavior- Meaning of attribution and errors in attribution, Meaning of social cognition and processing of social information
- (ii) Positive Psychology-Scope and aims, Nature and characteristics of happiness, Subjective well-being and personal growth

Practical:

- (i) **Intelligence test-** To test the non-verbal intelligence of Two college students using Raven's Standard Progressive Matrices
- (ii) **Personality Type-** To assess the personality type of a student obtaining responses from the student and two other significant persons in his /her life by using Glazer's test of Personality Type

Text Books:

- Baron, R.A. (1995). Psychology- The Essential Science, Pearson Education Company of India Pvt. Ltd.
- Gerrig, R.J. & Zimbardo, P.G. (2010). Psychology and Life (19th Ed.). Delhi: Allyn & Bacon
- Snyder, C.R. & Shane, J.L. (2005) Handbook of Positive Psychology: Oxford University Press.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Baron, R. A. & Byrne, D. (2003). Social Psychology, 10th Edition, Prentice Hall
- Misra, G. (2009). Psychology in India, Vol 1: Basic Psychological Processes and Human Development. India: Pearson
- Dash, U.N., Dash, A.S., Mishra, H.C., Nanda, G.K. & Jena, N. (2004). Practical Exercises in Psychology: Learning about Yourself and Others. Panchasila, Bhubaneswar

Core Paper- V
PSYCHOLOGICAL STATISTICS

Introduction: The course is designed to equip students with knowledge in the fundamentals of statistics and research methods so that they understand the application of statistics to different research problems in psychology.

Learning Objectives:

- To help students develop knowledge and understanding of the application of Statistics within Psychology
- To help students develop critical thinking for application of appropriate statistical analysis in Psychological research

Expected outcomes: Students will be able to understand

- The nature of psychological variables and how to measure them using appropriate scale.
- The processes of describing and reporting statistical data.

- The methods of drawing inferences and conclusions for hypothesis testing by using appropriate statistical analysis.

UNIT-I: Fundamentals of statistics

- (i) Meaning and scope of statistics, Nature of variables- Categorical and Continuous, Levels of Measurement- Nominal, Ordinal, Interval, and Ratio
- (ii) Drawing frequency distribution; Graphical representation of grouped data-Polygon, Histogram, Ogive.

UNIT- II: Measures of Statistics

- (i) Measures of Central Tendency- Characteristics of mean, median and mode; Computation of mean, median, and mode
- (ii) Measures of Variability- Concept of variability, computation of semi-inter quartile range, Standard deviation and variance, Co-efficient of variation

UNIT- III: Sources and Applications

- (i) Concept of Probability; Characteristics of Normal Probability curve, Applications of NPC, Deviation from NPC- Skewness and Kurtosis
- (ii) Concept of correlation, Product-moment correlation (ungrouped data), Rank order correlation, Chi-square test (Contingency Table)

UNIT –IV: Hypothesis Testing

- (i) Level of significance; Type I and Type II error; Computation of 't' for independent and dependent samples
- (ii) Purpose and assumptions of ANOVA; One-way and two-way ANOVA

Practical:

- (i) **Reporting of Statistical Results:** To collect data of 60 (30 boys and 30 girls) High School students about their Annual examination marks in four subjects and to report by descriptive statistical analyses.
- (ii) **Computer Awareness:** To be familiar with software packages of statistics and their applications.

Text Books:

- Aron, A., Aron, E.N., & Coups, E.J. (2007). Statistics for Psychology. (4thEd.) India: Pearson Education, Prentice Hall.
- Ferguson, G.A. & Takane, Y. (1989). Statistical Analysis in Psychology & Education, Tata McGraw Hill Publishing Company, New Delhi
- Garrett, H. E. & Woodworth, R.S. (1985). Psychology in Statistics and Education, Vakils, Feffer & Simons Ltd. Mumbai
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Mishra, G.C. (2018). Applications of Statistics in Psychology and Education, Kalyani Publisher, New Delhi

- Mohanty, B. and Misra, S. (2017). A text book of Basic Statistics. LaxmiPrakashans, Bhubaneswar, Odisha
- Siegal, S. (1994). Nonparametric Statistics. McGraw Hill, New Delhi

Core Paper-VI SOCIAL PSYCHOLOGY

Introduction: Social psychology is the scientific study of the nature and causes of human behavior in a social context. This course is designed to introduce the students to the field of social psychology, to explain how social psychologists think about and study human behavior; to introduce the body of knowledge and underlying principles that currently exist in the field and to encourage reflection about the implications of social psychology for the situations we encounter in everyday life.

Learning Objectives:

- To help students develop awareness of the concepts, problems and issues in the discipline of social psychology
- To make students understand the individuals and groups in respect to patterns of social behavior and attitudes
- To help students gain insight into the dynamics of intergroup relationships, conflict, prejudice and cooperation.

Expected outcomes: Students will be able to

- Know the scope of studying social psychology and the methods to gather data in the social context to explain them.
- Understand the significance of social cognition, attitudes, stereotypes and prejudices in explaining human behavior in the social contexts.
- Understand the significant aspects group behavior and social influence that constitute the core of human relationships.

UNIT-I: Introduction

(i) Nature, goal, and scope of Social Psychology; Methods of Social Psychology- Observation; Questionnaire, Interview, and Experiment

(ii) Social Cognition- Perceiving ourselves: self-concept, self-esteem, self-presentation and self-expression; Perceiving others and forming impressions

UNIT- II: Attitude, Prejudice and Stereotypes

(i) Attitudes- Nature, characteristics and functions of attitude; Attitude formation and change; Attitude measurement

(ii) Prejudice and Stereotypes- Nature and components of prejudice, Acquisition of prejudice, Reduction of prejudice

UNIT –III: Group and Leadership

(i) Group - Group structure and function, Task performance: Social facilitation, Social loafing; Conformity, Obedience and social modeling; Group cohesiveness.

(ii) Leadership- Definitions and functions, Trait, situational, interactional and contingency approaches to leadership; Leadership effectiveness, The charismatic leadership.

UNIT- IV: Social Behavior

(i) Pro-social behavior- Cooperation and helping, personal, situational and socio-cultural determinants, Theoretical explanations of pro-social behavior

(ii) Aggression- Theoretical perspectives, Trait, situational and social learning approaches, social and personal determinants of aggression, prevention and control of aggression.

Practical:

(i) **Ethical Values:** To assess the ethical values of five adolescents by using Donelson's Ethical Position Questionnaire (EPQ)

(ii) **Attitude towards Women:** To measure the attitude of three boys and three girls towards Women by using Spence, Helmrich & Stapps' Attitude towards Women scale.

Text Books:

- Baron R. A & Byrne. D. (2003). Social Psychology. 10th Edition, Prentice Hall
- Baron. R.A., Byrne, D. & Bhardwaj. G (2010). Social Psychology (12th Ed). New Delhi: Pearson
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.
- Dash, U.N., Dash, A.S., Mishra, H.C., Nanda, G.K. & Jena, N. (2004). Practical Exercises in Psychology: Learning about Yourself and Others. Panchasila, Bhubaneswar

Reference Books:

- Developments (ICSSR survey of advances in research). New Delhi: Pearson.
- Misra, G. (1990). Applied Social Psychology. New Delhi: Sage.
- Misra, G. (2009). Psychology in India, Volume 4: Theoretical and Methodological Implications

Core Paper- VII ENVIRONMENTAL PSYCHOLOGY

Introduction: Environmental psychology is an interdisciplinary field focussed on the interplay between individuals and their surroundings. The field defines the term environment broadly, encompassing natural environments, social settings, built environments, learning environments, and informational environments. The course is designed to introduce to the students about all these aspects of environment.

Learning Objectives:

- To highlight the simultaneous mutual interaction of environment and behavior.
- To delineate psychological approaches to the study of environment.
- To discuss the impact of ecological degradation and the need for enhanced awareness programs

Expected outcomes: Students will be able to

- understand the interactional relationships between environment and behavior
- understand the problems occurring to ecology and environment at the present time
- understand different psychological approaches to the study of man-environment relationship.

UNIT -I: Environment and Behavior

- (i) Earth as a living system: The Gaia hypothesis, Deep ecology; Man-environment relationship-physical, social, cultural, orientation and product.
- (ii) Effects of Environment on behavior: Noise pollution, Air pollution, Crowding and Population explosion.

UNIT- II: Ecology and Development

- (i) Human behavior and Environmental Problems: Global warming, Greenhouse effect, Energy depletion; Pro-environmental behaviors.
- (ii) Ecosystem and their components; Sustainable development; Resource use: Common property resources. Ecology: Acculturation and psychological adaptation

UNIT –III: Psychological Approaches to environment

- (i) Field theory approach; Eco-cultural Psychology (Berry); Biosocial Psychology (Dawson);
- (ii) Ecological Psychology (Barker); Ecological system approach (Bronfenbrenner)

UNIT- IV: Environmental Assessment

- (i) Socio-psychological dimensions of environmental impact; Environmental deprivation-nature and consequences.
- (ii) Creating environmental awareness; Social movements- Chipko, Tehri, Narmada.

Practical:

- (i) To assess the environmental literacy of 4 college students using Bob Simpson's Environment literacy and awareness survey questionnaire.
- (ii) To assess the environmental attitude, concern and sensitivity of 4 college students using Bob Simpson's Environment literacy and awareness survey questionnaire.

Text Books:

- Dreze, J. and Sen, A. (1992). Indian Development. Delhi: Oxford University Press.
- Gadgil, M. and Guha. R. (1995). Ecology and Equity. New Delhi, Penguin Books
- Mohanty, B. and Misra, S. (2017). A text book on Environmental Psychology. Krupajala Books, Bhubaneswar, Odisha
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Goldsmith, E. (1991). The way: The ecological World View. Boston: Shambhala

PSYCHOPATHOLOGY

Introduction: Psychopathology refers to the study of mental illness. This course is designed to expose students to the key concepts in psychopathology as well as the major theories associated with the etiology and treatment of psychological disorders and disabilities. Students will be able to understand the distinction between normal and abnormal and the qualities that are used to differentiate what is typical versus atypical through citations of different disorders.

Learning Objectives:

- To help students define and understand the basic concepts underlying psychopathology and the perspectives which contributed to the development of modern psychopathology.
- To help students understand the assessment techniques for identifying and classifying maladaptive behavior and mental disorders.
- To guide students to gain specific knowledge about different types of mental disorders.

Expected outcomes: Students will be able to

- Understand the differences between normality and abnormality along with the perspectives explaining them.
- Know the importance and the use of assessment techniques in identifying different forms of maladaptive behaviour.
- Learn the symptoms, causes and treatment of anxiety disorders, mood disorders and schizophrenia.

UNIT-I: Basics of Pathology

- (i) Concept of abnormality; Perspectives of abnormal behavior- Psychodynamic, Behavioral, Cognitive, Humanistic-Existential, and Sociocultural
- (ii) Classification of maladaptive behavior-DSM-IV; Assessment techniques- Diagnostic tests, Rating scales, History taking interview, Projective tests

UNIT- II: Anxiety and Mood disorder

- (i)Symptoms, causes and treatment of Generalized anxiety disorder, Phobic disorder, Obsessive-Compulsive disorder
- (ii) Depressive disorder –Symptoms, causes and treatment of Bipolar affective disorder, and Dysthymia

UNIT- III: Personality Disorders

- (i) Paranoid, Schizoid, Dissociative, Impulsive
- (ii) Borderline, Anxious, Avoidance, Dependent personality

UNIT –IV: Schizophrenia and Therapies

- (i) Characteristics, Major subtypes, Causes and treatment of Schizophrenia
- (ii) Psychodynamic, and Cognitive Behaviour therapy.

Practical:

- (i) **Anxiety:** Assessment of Anxiety of a subject by Hamilton Anxiety Rating Scale (HARS)
- (ii) **Depression:** Assessment of Depression Profile of a subject by Beck's Depression Inventory (BDI)

Text Books:

- Carson R.C., Butcher J.N., Mineka, S., & Hooley J.M. (2007). Abnormal Psychology (13th Ed.).ND: Pearson Education.
- Irwin G. Sarason, Barbara Sarason (2005). Abnormal Psychology. New Delhi: Prentice Hall Publication
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Kring,A.M.,Johnson,S.L.,Davison G.C. & Neale J.M. (2010). Abnormal Psychology (11th Ed.).NY: John Wiley

Core Paper IX EDUCATIONAL PSYCHOLOGY

Introduction: This course provides an introduction to concepts, theories, and research in educational psychology. The topics covered include cognitive development during the school years, classroom management, instructional approaches, motivation, assessment, and individual differences.

Learning Objectives:

- To provide students with an overview of the purposes and uses of educational psychology.
- To help students understand human development focusing mainly on the years of formal education including those with ability differences
- To make students understand the ways that educators motivate their students to learn and strive for excellence
- To make students explore the ways that educators manage learning environments to maximize learning and social cohesion

Expected outcomes: Students will be able to

- Define educational psychology and give examples of the different topics educational psychologists study.
- Describe the developmental issues faced by school age children.
- Describe the challenges presented by children with ability differences.
- Explain the role of motivation on learning and classroom behavior.
- Describe classroom management techniques.
- Identify commonly used standardized tests, their strengths and limitations, and use in school settings.

UNIT-I: Foundations of Educational Psychology

- (i) Concepts and principles of educational psychology, The teaching-learning process, Goals of teaching and objectives for learning, transfer of training, reinforcements in learning process
- (ii) Theories of cognitive development-Piaget, Bruner, and Vygotsky.

UNIT- II: Motivation and Classroom Management

- (i) Meaning of motivation, Intrinsic and extrinsic motivation, Approaches to understand classroom motivation, Motivational techniques in classroom teaching
- (ii) The goals of classroom management, Creating a positive learning environment, Characteristics of an effective teacher, Teacher expectation and students' performance

UNIT- III: Creativity and Aptitude

- (i) Nature and characteristics of creativity; Theories of creativity; Fostering creativity among children
- (ii) Nature and characteristics of aptitude; Types of aptitude; Measurement of aptitude; Utility of aptitude tests

UNIT –IV: Dealing with ability differences and Testing

- (i) Teaching children with mental retardation, learning disability, social class differences and educational difficulties, and attention deficit Hyperactive disorder.
- (ii) Types of standardized tests- Achievement test, and aptitude tests, Advantages and limitations of standardized test.

Practical:

- (i) **Academic Behaviour:** To assess the academic attitude and behavior of college students by using Sia's Academic Behavior Scale
- (ii) **Academic Stress:** To assess the academic stress of two higher Secondary students using Rao's Academic Stress Scale.

Text Books:

- Gage, N. L., & Berliner, D. C. (2009) *Educational psychology* (5th ed.). Boston, MA: Houghton Mifflin.
- Woolfolk, A.E. (2004). *Educational Psychology* (9th Ed.), Allyn& Bacon, London / Boston
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). *Explorations of Human Nature and Strength: Practicals in Psychology*, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Chauhan, S. S. (2010). *Advanced Educational Psychology*, Vikash Publishing.

Core Paper-X PSYCHOLOGICAL ASSESSMENT

Introduction: The course is designed to expose students to a basic understanding about approaches to psychological assessment and develop skill in the administration and interpretation of psychological tests.

Learning Objectives:

- To train students in various psychological assessment techniques
- To impart skills necessary for selecting and applying different tests for different purposes such as evaluation, training, rehabilitation etc.
-

Expected outcomes: Students will be able to

- Understand the basic facts about psychological assessment.
- Understand the processes of test construction and standardization.
- Understand about the assessment of different types of skills and abilities.

UNIT-I: Introduction

- (i) Nature and Scope of human assessment; Parameters of assessment
- (ii) Psychological scaling, Methods of scaling

UNIT- II: Psychological Tests

- (i) Principles of test construction and standardization- Item analysis, reliability, validity and development of norms
- (ii) Types of psychological tests- Individual, group, performance, verbal, nonverbal

UNIT –III: Assessment of Ability

- (i) Assessment of general abilities- Intelligence, interest, interpersonal interaction
- (ii) Assessment of personality- Use of self-report inventories, interview, projective and non-projective tests

UNIT- IV: Classroom Assessment

- (i) Classroom as assessment context, Traditional tests, Alternative assessment
- (ii) Grading and reporting of performance, Computer and assessment

Practical:

- (i) **Empathy:** To assess the empathy behavior of Five college students using Spreng's Empathy questionnaire.
- (i) **Sense of Humor:** To assess the Sense of Humor of 4 College Students Using McGhee's Scale of Sense of Humor (MSSH)

Text Books:

- Anastasi, A. (1988). Psychological Testing. New York: MacMillan
- Mishra, G.C. & Others (2018). Psychological Assessment. Kalyani Publisher, New Delhi

Reference Books:

- Kerlinger, F.N. (1983). Foundations of Behavioral Research. New York: Surjeet Publications
- Minium, E.W., King, B.M. & Bear, G. (1993). Statistical Reasoning in Psychology and Education. New York: John Willey

Core Paper XI ORGANIZATIONAL BEHAVIOR

Introduction: The course provides an overview of the main fields of organizational and personnel psychology. It focuses on topics such as organizational system; work behavior, attitudes and motivation as related to organizational set up; management of power and politics in the organizations; and finally development and evaluation of human resources for sustainable growth of an organizations.

Learning Objectives:

- To help students understand the structure, functions, and designs of different organizations.
- To make students understand the processes of group decision making and leadership functions in different organizations.
- To make students understand the theories of work motivation and related issues of power and politics in the organizational set up.
- To help students demonstrate professional skills in the evaluation, management, and development of human resources in the organizations.

Expected outcomes: Students will be able to

- Understand different concepts and dynamics related to organizational system, behavior, and management.
- Identify steps managers can take to motivate employees in the perspectives of the theories of work motivation.
- Understand the tricks of power and politics management in the organizations.
- Understand significance of human resource development, evaluation and management for the interest and benefit of the organization.

UNIT I: Historical context of organizational behavior

- (i) Contributions of Taylor, Weber and Fayoll; Challenges, Scope and opportunities for OB
- (ii) OB perspectives-Open system approach, Human relations perspective, Socio-technical approach, OB model responsive to Indian realities

UNIT-II: Organization System

- (i) Structure and functions of organization, Common organizational designs, Management roles, functions and skills
- (ii) Group decision making processes in organizations, Organizational leadership and types of leadership in organizations

UNIT- III: Work, Power and Politics

- (i) Contemporary theories of work motivation- ERG theory, McClelland's theory of needs, Cognitive evaluation theory, Goal-setting theory, Reinforcement theory
- (ii) Defining power in organization, Bases of power, Power tactics, Nature of organizational politics, Impression management, and defensive behavior

UNIT –IV: Human resource development and Evaluation

- (i) Human Skills and Abilities, Selection Practices for Optimal Use of Human Resources; Training Programs for the Development of Human Resources
- (ii) Performance Evaluation- Purpose, Methods, Potential Problems and methods to overcome them

Practical:

- (i) **Leadership Style:** To measure his basic leadership style of 4 college students by using Greenberg Basic Leadership Style scale
- (ii) **Conflict-Handling:** To measure the conflict-handling style of 4 college students by using Rahim's scale to identify their conflict handling style.

Text Books:

- Robbins, S.P.; Timothy, A.J. &Vohra, N. (2012). Organizational Behavior, 15th Edn. Pearson Education: New Delhi
- Luthans, F. (2009). Organizational behavior. New Delhi: McGraw Hill.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Greenberg, J. & Baron, R.A. (2007). Behaviour in Organizations (9th Ed.). India: Dorling Kindersley.

**Core Paper XII
HEALTH PSYCHOLOGY**

Introduction: Health psychology is a specialty area that focuses on how biology, psychology, behavior and social factors influence health and illness. This course is designed to provide an introduction to the area of health psychology to help students understand how Health Psychology as a specialty within psychology addresses the role of behavioral factors in health and illness. Basic theories, models and applications are also included.

Learning Objectives:

- To help the students understand the issues of Health Psychology and how to address them by the bio-psychosocial model of health and illness.
- To help the students to describe behavioral factors that influence health and illness.
- To guide the students understand about health enhancing behaviors including coping with illness.

Expected outcomes: Students will be able to

- Know the basics of health and illness from the Bio-psychosocial perspectives.
- Understand the significance of behavioral and psychological correlates of health and illness.
- Understand the significant aspects of coping and importance of health enhancing behavior.

UNIT-I: Introduction

- (i) Goals of Health Psychology, , Biopsychosocial model of health and illness
- (ii) Basic nature of stress, Cognitive appraisal of stressors, Some major causes of stress, Management of stress

UNIT- II: Health and Illness

- (i) Behavioral and psychological correlates of illness, Approaches to promoting wellness, Some common health beliefs and their implications
- (ii) Models of health- The cognition models- The health belief model, The protection motivation model, Leventhal's self-regulatory model.

UNIT –III: Health and Coping

- (i) Individual differences in symptom perception, Coping with the crises of illness; Compliance behavior and improving compliance.
- (ii) Health enhancing behavior- Diet management, Yoga and Exercise

UNIT- IV: Health Issues

- (i) Children health issues- Malnutrition, Immunization, Autism, ADHD
- (ii) Health issues of women and elderly: **Diabetes, Osteoporosis, Alzheimer's Disease, Depression**

Practical:

- (i) **Sleep Quality:** To assess the Sleep quality of 4 college students The Pittsburgh Sleep Quality Index (PSQI)
- (ii) **Coping Strategies:** To assess of the Coping Strategies of 4 college students by Tobin's Coping Strategy Inventory (TCSI)

Text Books:

- Taylor, S.E. (2006). Health Psychology (6th Ed.). New York: Tata McGraw Hill
- Brannon and Feist. Health Psychology.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Ogden, J. (2007). Essentials of Health Psychology. McGraw Hill.

Core Paper XIII COUNSELING PSYCHOLOGY

Introduction: The course is designed to develop entry level counseling psychologists who will be capable of understanding and demonstrating behavior and attitudes in the basic areas of professional counseling.

Learning Objectives:

- To help students understand and integrate current scientific knowledge and theory into counseling practice.

- To make students learn the history and professional issues related to counseling psychology.
- To help students integrate and convey information in the core areas of counseling practice.
- To help students demonstrate professional behavior in their various roles as counseling psychologists.

Expected outcomes: Students will be able to

- Understand the purpose of counseling and practice of counseling ethically following different approaches.
- Understand the basics of counseling process and use them for counseling students, families, couples, distressed, and handicaps.

UNIT-I: Basics of Counseling

- (i) Meaning, scope and purpose of counseling with special reference to India; The counseling process, counseling relationship, counseling interview
- (ii) Characteristics of a good counselor, Ethics and values in counseling; Education and training of the counselor

UNIT –II: Theories and Techniques of Counseling

- (i) Psychodynamic approach-Freud and Neo Freudians; Humanistic approach-Existential and Client centered
- (ii) Cognitive approach- Rational-emotive and transaction analysis; Behavioral approach-Behavior modification; Indian contribution- yoga and meditation

UNIT- III: Counseling Programs

- (i) Working in a counseling relationship, transference and counter transference, termination of counseling relationship, Factors influencing counseling
- (ii) Student counseling, Emphases, roles and activities of the school, and college counselor.

UNIT –IV: Counseling application

- (i) Family and Marriage Counseling, Family life and family cycle, Models and methods of family counseling
- (ii) Alcohol and drug abuse counseling; Counseling the persons with Suicidal tendencies, and Victims of Harassment and Violence

Practical:

- (i) **Marital Relationship-** To assess the marital relationship of 2 couples using Lerner’s Couple adjustment scale
- (ii) **Case Reporting:** To complete four case studies of high school students with problem behavior in the appropriate case record proforma

Text Books:

- Gladding, S.T. (2009). Counseling: A comprehensive profession (6th Ed.). New Delhi: Pearson India

- Mishra, H.C. & Varadwaj, K. (2009). Counseling Psychology: Theories, Issues and Applications, DivyaPrakashini, Samantarapur, Bhubaneswar, Odisha
- Burnard Philip. (1995). Counseling Skills Training – A sourcebook of Activities. New Delhi: Viva Books Private Limited.
- Gibson, R.L & Mitchell M.H. (2003). Introduction to counseling and Guidance. 6thedn. Delhi: Pearson Education
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Feltham, C and Horton, I. (2000). Handbook of Counseling and Psychotherapy. London: Sage.
- Misra, G. (Ed) (2010). Psychology in India, Volume 3: Clinical and Health Psychology. New Delhi: Pearson India.
- Nelson-Jones. (1995). The theory and practice of counseling. 2ndEdn. London: Holt, Rinehart and Winston Ltd
- Mohanty, G. B. (2018). Counseling Psychology, Kalyani Publisher, New Delhi.

Core Paper XIV POSITIVE PSYCHOLOGY

Introduction: Positive psychology is the scientific study of optimal human functioning to help people flourish. This is a foundation course in positive psychology to help students not only to understand the core themes of positive psychology, but also to equip them with the helpful positive interventions in various areas of professional psychology, such as clinical, health, education, organization and community.

Learning Objectives:

- To help students to understand the rationale behind positive psychology.
- To guide students to identify and analyze the key conceptual and theoretical frameworks underpinning positive psychology.
- To encourage students to appreciate the contributions of scholars from a range of disciplines and their influence on developing a positive approach to mental health.
- To make students understand and apply a strengths-based approach to mental health issues.

Expected outcomes: Students will be able to understand

- The goal of positive psychology and the basic behavior patterns that result in positive human growth from the point of view of leading positive psychologists.
- The concepts of flow and happiness and the related theories and models explaining happiness behavior and its consequences.
- All the precursors to positive psychology from character strength and altruism to resilience.

UNIT-I: Foundations

- (i) Historical roots and goals of positive psychology, Positive emotions, Positive Individual traits, and positive subjective experience
- (ii) Contribution of Martin Seligman, Albert Bandura, Carol Dweck and Abraham Maslow to positive psychology

UNIT- II: Flow and Happiness

- (i) Components of flow, Conditions and mechanisms of flow, Positive and negative consequences of flow experience
- (ii) Meaning and nature of happiness, Sources of happiness, Theories of happiness- Set-point theory, Life satisfaction and Affective state theories.

UNIT –III: Precursors to Positive Psychology

- (i) Character strength, Altruism, Hope and Optimism, Positive thinking, Resilience
- (ii) Psychology of well-being: Meaning of well-being, The well-being models, Factors affecting well-being, Promoting well-being among people

UNIT- IV: Ways to Positive Psychology

- (i) Discovering strength, Increasing optimism, Self-direction, Purpose, gratitude, Mindfulness, and Activities and experience
- (ii) Effects of exercise, Yoga, meditation and spiritual intelligence on development of positive psychology; Positive psychology in building relationship

Practical:

- (i) **Happiness:** To measure the happiness of 4 adults using Oxford Happiness questionnaire
- (ii) **Spiritual Intelligence:** To measure the spiritual intelligence of 4 adults using King's Spiritual Intelligence test.

Text Books:

- Seligman, M.E. (2002). Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment: Oxford University Press
- Carr, A. (2004). Positive Psychology: The science of happiness and human strength. UK: Routledge.
- Mohanty, G.B. (2018). Positive Psychology. Kalyani Publisher, New Delhi
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Peterson, C. (2006). A Primer in Positive Psychology; Oxford University Press
- Seligman, M.E. (2012). Flourish: A Visionary New Understanding of Happiness and Well-being. Oxford University Press
- Snyder, C.R. & Shane, J.L. (2005). Handbook of Positive Psychology. Oxford University Press
- Snyder, C.R., & Lopez, S.J. (2007). Positive psychology : The scientific and practical explorations of human strengths. Thousand Oaks, CA: Sage.

Discipline Specific Elective Paper-I
PSYCHOLOGICAL RESEARCH AND MEASUREMENT

Introduction: The research methods course is among the most frequently required in the psychology and with good reason. It helps the students know about the difference between an experiment and a correlational study, the function of independent and dependent variables, the importance of reliability and validity in psychological measurement, and the need for replication in psychological research. In other words, psychologists' research methods are at the very core of their discipline. The course is designed to train the students in psychological research and measurement.

Learning Objectives:

- To provide an overview of scientific approaches to psychological research in term of sampling techniques, scientific method, and experimental designs.
- To acquaint the students with respect to psychometric, projective techniques and non-testing approaches like interview
- .

Expected outcomes: Students will be able to

- Understand the nature of psychological research and characteristics of scientific methods of research.
- Know the methods of test construction and standardization
- Know the different approaches to assessment of personality.

UNIT-I: Psychological Research

- (i) Assumptions of science, Characteristics of scientific methods, Psychological research: Correlational and experimental
- (ii) Sampling frame: probability and non-probability samples, sample size, sampling error

UNIT- II: Psychological Scaling and Construction of test

- (i) Purpose of scaling and types of psychological data, Psychological scaling methods: Familiarity with Thurstone, Likert and Guttman scale
- (ii) Construction of test: Theory of measurement error; Operationalizing a concept, Generating items, Item analysis, Item response theory

UNIT –III:

- (i) **Experimental Designs:** Pretest- post-test design, Factorial designs, Randomized Block design
- (ii) **Standardization of tests:** Reliability and validity of tests, Development of norms and interpreting test scores

UNIT- IV:

- (i) **Assessment of Personality:** Psychometric and projective techniques, Familiarity with MMPI, Rorachs, WAT, and TAT
- (ii) **Interviewing:** Principles and procedures of interviewing, gaining cooperation, motivating respondents, training of interviewers, ethics of interviewing

Practical:

- (i) **TAT:** To administer the TAT on a subject and give summary report
- (ii) **Word Association test:** To administer the Jung / Kent-Rosanoff list of WAT on a subject and report on his areas of emotional difficulties

Text Books:

- Anastasi, A. (1988). Psychological Testing. New York: MacMillan
- Minium, E.W., King, B.M. & Bear, G. (1993). Statistical Reasoning in Psychology and Education. New York: John Wiley

Reference Books:

- Kerlinger, F.N. (1983). Foundations of Behavioral Research. New York: Surjeet Publications
- Best, W.J. & Kahn, J.V. (2006)- Research in Education. Pearson

Discipline Specific Elective Paper-II
PSYCHOLOGY AND SOCIAL ISSUES

Introduction: Psychologists can play a larger role in the solution of important social problems. Psychology brings two important qualities to the study of social problems: attention to psychological process and rigorous methodology. The key task in the designed course is to define social problems in part as psychological problems.

Learning Objectives:

- The course will provide social psychological analysis of some major social issues in India.

Expected outcomes: Students will be able to

- Understand the nature and characteristics of different social systems and social integration in India.
- Understand the aspects of health and wellbeing of Indian people.
- Understand about the political behavior of Indian people

UNIT-I

- (i) **Understanding Social Systems:** Indian Family System; Social stratification; caste, class, power, Religious ethics
- (ii) **Poverty and Deprivation:** Theories of poverty, Concomitants of poverty, Sources of deprivation, inequality and social justice.

UNIT- II

- (i) **Health and wellbeing:** Role of behavior in health problems, Behavioral sciences in disease prevention and control, India's health scenario
- (ii) **Political Behavior:** Development of ideology, Use of small groups in politics, Issues of human and social development, Quality of life and development

UNIT –III: Antisocial Behavior

- (i) Corruption and bribery, Juvenile delinquency, terrorism,
- (ii) Crime and criminal behavior, Alcoholism and drug abuse, Psychopath

UNIT- IV

(i) **Social integration:** The concept of social integration; Causal factors of social conflicts and prejudices; Psychological strategies for handling the conflicts and prejudices; Measures to achieve social integration.

(ii) **Violence:** Nature and categories of violence, violence in family and marriage, rape, Collective violence for social change

Practical:

(i) **Quality of Life:** To assess the quality of life family of 4 families using Beach Center Family Quality of Life Scale

(ii) **Community Integration:** To assess the community integration of a village by using Community integration questionnaire (CIQ) of Barry Willer

Text Books:

- Srinivas, M.N. (1966). Social change in modern India, .Bombay: Allied
- Mohanty, A .K. and Mishra, G. (Eds.) (2000). Psychology of Poverty and Disadvantage. New Delhi: Concept
- Mishra, H.C. and Misra, S. (2009). Psychology of Deviants, DivyaPrakashani, Bhubaneswar

Reference Books:

- Banerjee, D. (1998). Poverty, class and health culture in India, Vol. I, Delhi PrachiPrakashan
- Dube, S.C. (1987) Modernization and Development. ND: Sage
- Mishra, G. (1999). Psychological perspectives on stress and Health. New Delhi: Concept
- Sen, A. &Sen A.K. (Eds.). (1998). Challenges of contemporary Realities: A psychological Perspective. New Delhi: New Age International

Discipline Specific Elective Paper-III

PSYCHOLOGY OF DISABILITY

Introduction: According to WHO, disability is any restriction or lack resulting from an impairment of ability to perform an activity in the manner or within the range considered normal for a human being. While individuals may have physical or psychological impairments, it is often the society and environment that contributes to the experience of disability by failing to accommodate people with impairments. Inclusion and access is a fundamental human right and inclusive and accessible communities are vital for individual and community wellbeing. Study of psychology of disability would help the students understand this social responsibility.

Learning Objectives:

- The objective of the course is to provide students with an overview of the disability from the psychological perspective.

- Drawing from the four units, students will be exposed to varying disability definitions, cultural meanings and representations.
- What does it mean to be “disabled”? How has this meaning changed over time in India? What factors affect a person’s experience of disability? Why should people in psychology learn about these matters?

Expected outcomes: Students will be able to

- Know about different types of disability and their prevalence in India.
- Understand various socio-cultural models of disability
- Gain knowledge about disability policies in India
- Understand about intervention and rehabilitation of disables in India

UNIT I

- (i) Conceptualizing Disability: Meaning and Definition, Types of disability, Assessment and Diagnosis
- (ii) Understanding Disability Policy in India: Equal opportunities Bill, Rehabilitation Council of India, National Trust

UNIT-II

- (i) Theorizing Disability: Charity Model; Welfare Model; Medical Model
- (ii) Social Model: culture as disability; Empowerment Model

UNIT- III

- (i) Disability support: Beliefs and attitudes towards disability; Family, care, and support structure
- (ii) Issues of Access: Built and Psychological; Education and Employment, learning disability

UNIT -IV

- (i) Designing Interventions: Psychotherapeutic approaches; Rehabilitation
- (ii) Contemporary Debates: euthanasia, prenatal selection

Practical:

- (i) To assess the attitude of 8 college students by using ‘Attitude towards Disabled Persons Scale’ (Yuker et al., 1998).
- (ii) To assess the knowledge of 4 college students about Disability Policy in India using a Questionnaire.

Text Books:

- Chib, M. (2011). One Little Finger. New Delhi: Sage Publications Pvt. Ltd.
- Dalal, A. K. (2011). Folk wisdom and traditional healing practices: Some lessons for modern psychology. In MatthijsCornelissen, GirishwarMisra, &SuneetVarma (eds) Foundations of Indian Psychology: Practical applications (Vol. 2) Longman, Pearson Education, New Delhi
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, Divya Prakashani, Samantarapur, Bhubaneswar

Reference Books:

- Ghai, A. (2015). Rethinking Disability in India. India: Routledge. Ghai, A. (2010). Psychology of Disabled in G.Misra (Ed.) Psychology in India: Advances in research. New Delhi: Pearson education. Ghai, A. (2006 [2003]) (Dis)Embodied Form: Issues of Disabled Women. New Delhi: Shakti Books.
- Goodley. D & Lawthom. R. (2006). Disability and Psychology: Critical Introductions and Reflections. Palgrave Macmillan.

Discipline Specific Elective Paper-IV DISSERTATION / RESEARCH PROJECT

Introduction: The research experience of students is greatly enriched by early exposure to conducting research. There are numerous benefits of undergraduate students who get involved in research. They are better off in understanding published works, determine an area of interest, can discover their passion for research and may start their career as a researcher. Further, students will be able develop ability for scientific inquiry and critical thinking, ability in the knowledge base and communication of psychology. This course is included to promote above mentioned abilities among the students.

Learning Objectives:

- To help students to learn how to develop scientific research designs in the study of psychology.
- To guide students to understand the previous research in their field of interest and review them to arrive at a research problem
- To encourage the students to learn ways to describe and measure human behavior.
- To help students understand the logic of hypothesis testing and application of appropriate statistical analysis.
- To make students to learn the methods of writing a research report.

Expected outcomes: Students will be able to

- Independently prepare a research design to carry out a research project
- Review the related research papers to find out a research problem and relevant hypotheses
- Understand the administration, scoring and interpretation of the appropriate instrument for measurement of desired behavior
- Learn the use of statistical techniques for interpretation of data.
- Learn the APA style of reporting a research project.

Unit I

A student is required to carry out a project on an issue of interest to him / her under the guidance and supervision of a teacher. In order to do so s/he must have the knowledge in research methodology and of steps in planning and conducting a research. The supervisors may help the students to go on field study / study tour relevant to their work. Thirty hours of class may be arranged in the routine to help students understand research methodology, and planning, conduction and reporting on the research. An external examiner with the supervisor as the

internal examiner will evaluate the research project on the basis of scientific methodology in writing the report, and presentation skill and performance in the viva.

- **Format**

- **Abstract** – 150 words including problem, method and results.
- **Introduction** – Theoretical considerations leading to the logic and rationale for the present research
- **Review**- Explaining current knowledge including substantive findings and theoretical and methodological contributions to the topic, objectives and hypotheses of the present research
- **Method** – Design, Sample, Measures, Procedure
- **Results**- Quantitative analysis of group data (Raw data should not be attached in Appendix) Graphical representation of data wherever required. Qualitative analysis wherever done should indicate the method of qualitative analysis.
- **Discussion**
- **References (APA Style) & Appendices**
- Project should be in Soft binding. It should be typed in Times New Roman 14 letter size with 1.5 spacing on one sides of the paper. Total text should not exceed 50 pages (References & Appendices extra).
- Two copies of the project should be submitted to the College.
- **Project - American Psychological Association (APA) – Publication Manual 2006 to be followed for project writing**

Mark distribution for dissertation / Research project						
Identification of problem	Review of Literature	Methodology	Analysis	Findings	Viva-voce	Total
10	10	10	25	20	25	100

Or

**DSE Paper-IV /Alternative to dissertation
PSYCHOLOGY OF CRIME**

Introduction: This course provides an introduction to psychology of crime and criminal behavior. The topics covered in this paper include meaning, nature and theories of criminal behavior; crime prevention and control; and about the trauma of some victims of crime.

Learning Objectives:

- To provide students with an overall knowledge of psychology of crime.
- To help students understand the psychosocial perspectives of crime.
- To make students aware about the processes of crime prevention and control.
- To help students understand the trauma of victims of some types of crime.
-

Expected outcomes: Students will be able to

- Define criminal behavior and explain the psychosocial factors of crime and criminal behavior.
- Discuss the social and psychological theories of crime and criminal behavior.
- Describe how crimes are prevented and controlled by police and other agencies.
- Describe the behavior and mental health of the victims of crimes.

UNIT-I: Introduction to crime

- (i) Definition, meaning, and nature of criminal behavior; Factors of criminal behavior: Antisocial values; Peer influence; Antisocial personality; Dysfunctional family; Substance abuse
(ii) Major types of crimes: Homicide; Robbery, Sexual offences; Cybercrimes.

UNIT- II: Theories of Criminal Behavior

- (i) Social disorganization theory; Rational choice theory; Strain theory
(ii) Social learning theory; Social control theory, Labeling theory; Genetic theory

UNIT –III: Crime prevention and Control

- (i) Crime prevention models: Primary prevention, Secondary prevention; Tertiary prevention
(ii) Crime control: Crime control model and Due process model

UNIT –IV: Special Victims

- (i) Rape and sexual assault; Domestic violence; Bullying and school violence
(ii) Workplace violence, Victims of terrorism

Practical:

- (i) **Guilt quotient:** Test your subject’s Guilt Quotient Using Chattopadhyay’s “What is your guilt quotient?” scale.
(ii) **Domestic Violence:** Using the “Domestic Violence Scale (Michale, 2008)” assess your subject’s attitude towards domestic violence.

Text Books:

- Counseling Crime Victims: Practical Strategies for Mental Health Professionals; Laurence Miller, Springer Publishing Company, USA.
- Criminal Psychology; Nabin Kumar; LexisNexis, USA

Reference Books:

- Inside the Criminal Mind, S. E. Samenow; BDWY/ Newyork

Generic Elective Paper-I INTRODUCTORY PSYCHOLOGY

Introduction: The course is designed to provide the students a basic understanding of the psychology of human behavior. The students will be given exposure to concepts, terminology, principles, and theories that comprise an introductory course in psychology.

Learning Objectives:

- To help the students know the sources and processes of development of modern scientific psychology.
- To help the students develop a scientific temperament in studying and understanding human behavior.

Expected outcomes: Students will be able to

- Define the term psychology and demonstrate command of the basic terminology, concepts, and principles of the discipline.
- Gain knowledge of scientific methodology—the variety of ways in which psychological data are gathered and evaluated / interpreted.
- Identify and compare the major perspectives in psychology: Recognize how each approach views human thought and behavior.
- Understand the physiological and biochemical links of human behavior.

UNIT-I: Introducing Psychology

(i) Concept and definition of psychology, Roots of psychology, Psychology as a scientific discipline.

(ii) Key Perspectives in Psychology- Behavioral, Cognitive, Humanistic, Psychodynamic, and Sociocultural

UNIT- II: Methods in Psychology

(i) Natural Observation, Survey and Case Study- Nature, advantages and limitations.

(ii) Experimental and Correlational methods-Nature, advantages and limitations.

UNIT –III: Biological Bases of Behavior

(i) Structure and functions of the neurons, Communication within and between neurons, Chemical regulation of the endocrine glands.

(ii) Structure and functions of the Central nervous system and Autonomic nervous system

UNIT-IV: States of Mind

(i) Nature of consciousness; changes in consciousness- sleep-wake schedules

(ii) Extended states of Consciousness- Hypnosis, Meditation and Hallucinations

Practical:

(i) **R.L. by Method of Limits:** Students are required to find out the R. L. of volar surface of the right arm of a subject by method of limits

(ii) **D.L. by Method of Constant Stimuli:** To find out the D.L. for lifted weight of your subject by method of constant stimuli.

Text Books:

- Baron, R. A. (2002). Psychology (5th Edition), New Delhi: Pearson Education.
- Hilgard & Atkinson- Introduction to Psychology (2003) 14th Edition, Thomson Learning Inc.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Morgan, C.T., King, R.A., Weisz, J.R., & Schopler, J. (2008). Introduction to psychology (7th edition) Bombay: Tata-McGraw Hill.
- Feldman, R.S. (2004). Understanding Psychology (6th Edition), New Delhi, Tata-McGraw Hill.

Generic Elective Paper-II
BASIC DEVELOPMENTAL PROCESSES

Introduction: The course is designed to expose students to a basic understanding about the fundamental concerns of developmental psychology and provide examples of the following three dimensions of development: growth, differentiation, and orderly progression.

Learning Objectives:

- To help students gain some key ideas about human development and the perspectives to understand and explain such developments.
- To help the students understand the significance of prenatal period for human development.
- To help the students understand the developmental preparations of the childhood and the implications of developmental milestones for the normal human development.

Expected outcomes: Students will be able to

- Understand the nature, types, and principle of development.
- Understand the processes of formation of life and development during pre- and post-natal periods.
- Understand about the different aspects of preparation for future life.

UNIT-I: Basics of development

(i) Meaning, nature, and types of development; Principles of development; Factors influencing development

(ii) Perspectives of development- Psychoanalytic; Mechanistic; Organismic; Humanistic

UNIT- II: Life in formation

(i) Fertilization, determination of sex, multiple birth; Prenatal development- germinal stage, embryonic stage, fetal stage; Factors influencing prenatal development

(ii) Physical and motor developments, Social and emotional developments during childhood.

UNIT –III: Life in preparation

(i) Physical and motor developments, Social and emotional developments during adolescence.

(ii) Piaget's stage of cognitive development; Kohlberg's stages of moral development

Unit- IV: Self and identity

(i) Emergence of self; Structure of the self; Development of personal identity

(ii) Development of self-control; Development of gender differences and gender roles

Practical:

(i) **Locus of Control:** To assess the Locus of Control of four college students by using Rotter's Locus of Control Scale.

(ii) **Emotional Intelligence:** To measure the emotional intelligence of four college students by using the Schutte's Emotional Intelligence Scale.

Text Books:

- Sigelman, G.K. & Schaffer, D.R. (1995). Life-span Human Development, Brooks / Cole Publishing Co. Pacific Grove, California.
- Berk, L. E. (2010). Child Development (8th Ed.). New Delhi: Prentice Hall.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Papalia, Diane E., Sally Wendos Olds (2006). Human Development. 9th Edition. New Delhi: Tata McGraw Hill
- Baron, R. A. (2002). Psychology (5th Edition), New Delhi, Pearson Education.

**Generic Elective Paper-III
BASIC PSYCHOLOGICAL PROCESSES**

Introduction: The course is designed to provide the student a basic understanding of the psychological processes from sensation to thought and communication. The student will be given exposure to the concepts, terminology, principles, and theories relating to each of the mental processes that constitute human psychology.

Learning Objectives:

- To help the students to understand the mental processes to begin with sensation and perception up to how it results in thoughts and communication.
- To help the students gather knowledge about the structural and functional dynamics of each of the mental processes and their interconnectedness.

Expected outcomes: Students will be able to

- Understand the basic sensory actions and the processes of integration of sensory actions in creating and interpreting perceptual events.
- Gain knowledge of the important processes and principles of human learning as well as the structural functional attributes of human memory to help conserve the learning outcomes.
- Understand the structural and functional properties of language and the way it helps thought, communication, problem solving and decision making through development of concepts, ideas, images, and so on.

UNIT-I: Sensation and Perception

(i) Basics of sensation- Sensory receptors (eye and ear), transduction, sensory thresholds, and sensory adaptation

(ii) Nature of perceptual process- Figure and ground, Grouping (Gestalt laws), Perceptual constancies, and illusions, Perception of distance and depth.

UNIT- II: Learning and Memory

(i) Nature and principles of Classical conditioning, Operant conditioning, and Observational learning

(ii) The Atkinson and Shiffrin Model of Memory; Types of Memory- episodic, semantic and procedural; Causes of Forgetting- interference, repression, and amnesia

UNIT –III: Language and Communication

(i) Properties and structure of language, Linguistic hierarchy, Language acquisition-predisposition, Nature of effective communication

(ii) Stages of language development; critical period controversy; speech error and its implications

UNIT –IV: Thinking and Reasoning

(i) Thinking process; concepts, categories and prototypes, Decision making and factors of influencing decision making.

(ii) Inductive and deductive reasoning; Problem solving approaches; Steps in problem solving

Practical:

(i) **Learning Curve:** To demonstrate the Learning Curve as a function of Learning trials using Non-sense Syllables.

(ii) **Serial Position Effect:** To demonstrate the serial position effect on memory in learning a list of nonsense syllables.

Text Books:

- Baron, R. A. (2002). Psychology (5th Edition), New Delhi, Pearson Education.
- Feldman, R.S. (2004). Understanding Psychology (6th Edition), New Delhi, Tata Mc. Graw Hill.
- Dash, U.N., Dash, A.S., Mishra, H.C., Nanda, G.K. & Jena, N. (2004). Practical Exercises in Psychology: Learning about Yourself and Others. Panchasila, Bhubaneswar
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Morgan, C.T., King, R.A., Weisz, J.R., & Schopler, J. (2008). Introduction to psychology (7th edition) Bombay: Tata-McGraw Hill.

Generic Elective Paper-IV

PROCESSES OF HUMAN EMPOWERMENT

Introduction: Human empowerment is ultimately an individual condition of gaining the power to control and modulate changes in one's own life those are considered important to one's identity and adjustment. The purpose of the course is to introduce to the students the basics of human empowerment and how the empowerment processes are strengthened and improved.

Learning Objectives:

- To help students gain ideas about intelligence and personality as foundations of human empowerment.
- To make students understand how motivation and emotion are empowering processes to human development.
- To help students gain insight into human behavior as products of empowerment.

Expected outcomes: Students will be able to

- Know the structural components and functional dynamics of both intelligence and personality.
- Understand the significance of emotion and motivation in behavior management.
- Understand significant aspects of social behavior as resulting in happiness, well-being and personal growth.

UNIT-I: Basics of empowerment

- (i) Intelligence- Heredity, environment, and intelligence, Theories of Gardner, Stenberg, & PASS
- (ii) Measuring Intelligence: intelligence tests; Interpretation of test score, Cross-cultural issues in testing intelligence

UNIT- II: Sources of Power (1)

- (i) Personality- Freud's theory, and Social cognitive theory
- (ii) Personality-Trait and type approach, Biological and sociocultural determinants, Psychometric and projective assessment.

UNIT- III: Sources of Power(2)

- (i) Motivation-Drive theory, Arousal theory, Expectancy theory, Maslow's need hierarchy
- (ii) Emotion-Theories of James-Lange, Cannon-Bard, & Schachter-Singer

UNIT –IV: Proving empowered

- (i) Social behavior- Meaning of attribution and errors in attribution, Meaning of social cognition and processing of social information
- (ii) Positive Psychology-Scope and aims, Nature and characteristics of happiness, Subjective well-being and personal growth

Practical:

- (i) **Intelligence test-** To test the non-verbal intelligence of Two college students using Raven's Standard Progressive Matrices
- (ii) **Personality Type-** To assess the personality type of a student obtaining responses from the student and two other significant persons in his /her life by using Glazer's test of Personality Type

Text Books:

- Baron, R.A. (1995). Psychology- The Essential Science, Pearson Education Company of India Pvt. Ltd.

- Gerrig, R.J. &Zimbardo, P.G. (2010). Psychology and Life (19th Ed.). Delhi: Allyn & Bacon
- Snyder, C.R. & Shane, J.L. (2005) Handbook of Positive Psychology: Oxford University Press.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practical in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Books:

- Baron, R. A. & Byrne, D. (2003). Social Psychology, 10th Edition, Prentice Hall
- Misra, G. (2009). Psychology in India, Vol 1: Basic Psychological Processes and Human Development. India: Pearson
- Dash, U.N., Dash, A.S., Mishra, H.C., Nanda, G.K. & Jena, N. (2004). Practical Exercises in Psychology: Learning about Yourself and Others. Panchasila, Bhubaneswar

PSYCHOLOGY Papers for PASS Students

Framework of PSYCHOLOGY Syllabus for Pass Students

Sl No	Name of the Course	Paper	Semester	CP (Credit Point)	CH (Credit Hour)	Marks
1	DSC 1	Introductory Psychology	I	6	60	100
2	DSC 2	Basic Psychological Processes	II	6	60	100
3	DSC 3	Statistics	III	6	60	100
4	DSC 4	Psychopathology	IV	6	60	100
Total Paper		4		24	240	400

Sl No	Name of the Course	Paper	Semester	CP (Credit Point)	CH (Credit Hour)	Marks
1	DSE 1	Basic Developmental Processes	V	6	60	100
2	DSE 2	Processes of Human Empowerment	VI	6	60	100
Total Paper		2		12	120	200

PSYCHOLOGY Papers for PASS students

Discipline Specific Core – 4 papers & Discipline Specific Elective – 2 papers

Scoring System for Papers with Practical:

Marks per paper - Midterm: 15 marks, Practical: 25 marks (Practical Record-3+Report-15+Viva-7), End term: 60 marks, Total: 100 marks, Credit per paper – 6, Teaching hours per paper – 40 hours theory + 20 hours practical

Scoring System for Papers without Practical:

Marks per paper - Midterm: 20 marks, End term: 80 marks, Total: 100 marks
Credit per paper – 6, Teaching hours per paper – 50 hours + 10 hours tutorial

Discipline Specific Core Paper I INTRODUCTORY PSYCHOLOGY

Introduction: The course is designed to provide the student a basic understanding of the psychology of human behavior. The students will be given exposure to concepts, terminology, principles, and theories that comprise an introductory course in psychology.

Learning Objectives:

- To help the students know the sources and processes of development of modern scientific psychology.

- To help the students develop a scientific temperament in studying and understanding human behavior.

Expected outcomes: Students will be able to

- Define the term psychology and demonstrate command of the basic terminology, concepts, and principles of the discipline.
- Gain knowledge of scientific methodology—the variety of ways in which psychological data are gathered and evaluated / interpreted.
- Identify and compare the major perspectives in psychology: Recognize how each approach views human thought and behavior.
- Understand the physiological and biochemical links of human behavior.

UNIT-I: Introducing Psychology

(i) Concept and definition of psychology, Roots of psychology, Psychology as a scientific discipline.

(ii) Key Perspectives in Psychology- Behavioral, Cognitive, Humanistic, Psychodynamic, and Sociocultural

UNIT- II: Methods in Psychology

(i) Natural Observation, Survey and Case Study- Nature, advantages and limitations.

(ii) Experimental and Correlational methods-Nature, advantages and limitations.

UNIT –III: Biological Bases of Behavior

(i) Structure and functions of the neurons, Communication within and between neurons, Chemical regulation of the endocrine glands.

(ii) Structure and functions of the Central nervous system and Autonomic nervous system

UNIT-IV: States of Mind

(i) Nature of consciousness; changes in consciousness- sleep-wake schedules

(ii) Extended states of Consciousness- Hypnosis, Meditation and Hallucinations

Practical:

(i) **R.L. by Method of Limits:** To find out the R. L. of volar surface of the right arm of a subject by method of limits

(ii) **D.L. by Method of Constant Stimuli:** To find out the D.L. for lifted weight of your subject by method of constant stimuli.

Text Book:

- Baron, R. A. (2002). Psychology (5th Edition), New Delhi: Pearson Education.
- Hilgard & Atkinson- Introduction to Psychology (2003) 14th Edition, Thomson Learning Inc.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Book:

- Morgan, C.T., King, R.A., Weisz, J.R., & Schopler, J. (2008). Introduction to psychology (7th edition) Bombay: Tata-McGraw Hill.

- Feldman, R.S. (2004). Understanding Psychology (6th Edition), New Delhi, Tata-McGraw Hill.

Discipline Specific Core Paper II

BASIC PSYCHOLOGICAL PROCESSES

Introduction: The course is designed to provide the student a basic understanding of the psychological processes from sensation to thought and communication. The student will be given exposure to the concepts, terminology, principles, and theories relating to each of the mental processes that constitute human psychology.

Learning Objectives:

- To help the students to understand the mental processes to begin with sensation and perception up to how it results in thoughts and communication.
- To help the students gather knowledge about the structural and functional dynamics of each of the mental processes and their interconnectedness.

Expected outcomes: Students will be able to

- Understand the basic sensory actions and the processes of integration of sensory actions in creating and interpreting perceptual events.
- Gain knowledge of the important processes and principles of human learning as well as the structural functional attributes of human memory to help conserve the learning outcomes.
- Understand the structural and functional properties of language and the way it helps thought, communication, problem solving and decision making through development of concepts, ideas, images, and so on.

UNIT-I: Sensation and Perception

(i) Basics of sensation- Sensory receptors (eye and ear), transduction, sensory thresholds, and sensory adaptation

(ii) Nature of perceptual process- Figure and ground, Grouping (Gestalt laws), Perceptual constancies, and illusions, Perception of distance and depth.

UNIT- II: Learning and Memory

(i) Nature and principles of Classical conditioning, Operant conditioning, and Observational learning

(ii) The Atkinson and Shiffrin Model of Memory; Types of Memory- episodic, semantic and procedural; Causes of Forgetting- interference, repression, and amnesia

UNIT –III: Language and Communication

(i) Properties and structure of language, Linguistic hierarchy, Language acquisition-predisposition, Nature of effective communication

(ii) Stages of language development; critical period controversy; speech error and its implications

UNIT IV: Thinking and Reasoning

(i) Thinking process; concepts, categories and prototypes, Decision making and factors of influencing decision making.

(ii) Inductive and deductive reasoning; Problem solving approaches; Steps in problem solving

Practical:

(i) Learning Curve: To demonstrate the Learning Curve as a function of Learning trials using Non-sense Syllables.

(ii) Serial Position Effect: To demonstrate the serial position effect on memory in learning a list of nonsense syllables.

Text Book:

- Baron, R. A. (2002). Psychology (5th Edition), New Delhi, Pearson Education.
- Feldman, R.S. (2004). Understanding Psychology (6th Edition), New Delhi, Tata Mc. Graw Hill.
- Dash, U.N., Dash, A.S., Mishra, H.C., Nanda, G.K. & Jena, N. (2004). Practical Exercises in Psychology: Learning about Yourself and Others. Panchasila, Bhubaneswar
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Book:

- Morgan, C.T., King, R.A., Weisz, J.R., & Schopler, J. (2008). Introduction to psychology (7th edition) Bombay: Tata-McGraw Hill.

Discipline Specific Core Paper III STATISTICS

Introduction: The course is designed to equip students with knowledge in the fundamentals of statistics and research methods so that they understand the application of statistics to different research problems in psychology.

Learning Objectives:

- To help students develop knowledge and understanding of the application of Statistics within Psychology
- To help students develop critical thinking for application of appropriate statistical analysis in Psychological research

Expected outcomes: Students will be able to understand

- The nature of psychological variables and how to measure them using appropriate scale.
- The processes of describing and reporting statistical data.
- The methods of drawing inferences and conclusions for hypothesis testing by using appropriate statistical analysis.

UNIT-I: Fundamentals of statistics

- (i) Meaning and scope of statistics, Nature of variables- Categorical and Continuous, Levels of Measurement- Nominal, Ordinal, Interval, and Ratio
- (ii) Drawing frequency distribution; Graphical representation of grouped data-Polygon, Histogram, Ogive.

UNIT- II: Measures of Statistics

- (i) Measures of Central Tendency- Characteristics of mean, median and mode; Computation of mean, median, and mode
- (ii) Measures of Variability- Concept of variability, computation of semi-inter quartile range, Standard deviation and variance, Co-efficient of variation

UNIT III: Sources and Applications

- (i) Concept of Probability; Characteristics of Normal Probability curve, Applications of NPC, Deviation from NPC- Skewness and Kurtosis
- (ii) Concept of correlation, Product-moment correlation (ungrouped data), Rank order correlation, Chi-square test (Contingency Table)

UNIT –IV: Hypothesis Testing

- (i) Level of significance; Type I and Type II error; Computation of 't' for independent and dependent samples
- (ii) Purpose and assumptions of ANOVA; One-way and two-way ANOVA

Practical

- (i) **Reporting of Statistical Results:** To collect data of 60 (30 boys and 30 girls) High School students about their Annual examination marks in four subjects and to report by descriptive statistical analyses.
- (ii) **Computer Awareness:** To be familiar with software packages of statistics and their applications.

Text Book:

- Aron, A., Aron, E.N., & Coups, E.J. (2007). Statistics for Psychology. (4thEd.) India: Pearson Education, Prentice Hall.
- Ferguson, G.A. & Takane, Y. (1989). Statistical Analysis in Psychology & Education, Tata McGraw Hill Publishing Company, New Delhi
- Garrett, H. E. & Woodworth, R.S. (1985). Psychology in Statistics and Education, Vakils, Feffer& Simons Ltd. Mumbai
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Book:

- Mishra, G.C. (2018). Applications of Statistics in Psychology and Education, Kalyani Publisher, New Delhi
- Mohanty, B. and Misra, S. (2017). A text book of Basic Statistics. LaxmiPrakashans, Bhubaneswar, Odisha
- Siegal, S. (1994). Nonparametric Statistics. McGraw Hill, New Delhi

Discipline Specific Core Paper IV PSYCHOPATHOLOGY

Introduction: Psychopathology refers to the study of mental illness. This course is designed to expose students to the key concepts in psychopathology as well as the major theories associated with the etiology and treatment of psychological disorders and disabilities. Students will be able to understand the distinction between normal and abnormal and the qualities that are used to differentiate what is typical versus atypical through citations of different disorders.

Learning Objectives:

- To help students define and understand the basic concepts underlying *psychopathology and the* perspectives which contributed to the development of modern psychopathology.
- To help students understand the assessment techniques for identifying and classifying maladaptive behavior and mental disorders.
- To guide students to gain specific knowledge about different types of mental disorders.

Expected outcomes: Students will be able to

- Understand the differences between normality and abnormality along with the perspectives explaining them.
- Know the importance and the use of assessment techniques in identifying different forms of maladaptive behavior.
- Learn the symptoms, causes and treatment of anxiety disorders, mood disorders and schizophrenia.

UNIT-I: Basics of Pathology

- (i) Concept of abnormality; Perspectives of abnormal behavior- Psychodynamic, Behavioral, Cognitive, Humanistic-Existential, and Sociocultural
- (ii) Classification of maladaptive behavior-DSM-IV; Assessment techniques- Diagnostic tests, Rating scales, History taking interview, Projective tests

UNIT- II: Anxiety and Mood disorder

- (i)Symptoms, causes and treatment of Generalized anxiety disorder, Phobic disorder, Obsessive-Compulsive disorder
- (ii) Depressive disorder –Symptoms, causes and treatment of Bipolar affective disorder, and Dysthymia

UNIT III: Personality Disorders

- (i) Paranoid, Schizoid, Dissociative, Impulsive
- (ii) Borderline, Anxious, Avoidance, Dependent personality

UNIT –IV: Schizophrenia and Therapies

- (i) Characteristics, Major subtypes, Causes and treatment of Schizophrenia
- (ii) Psychodynamic, and Cognitive Behavior therapy.

Practical:

(i) **Anxiety:** Assessment of Anxiety of a subject by Hamilton Anxiety Rating Scale (HARS)

(ii) **Depression:** Assessment of Depression Profile of a subject by Beck's Depression Inventory (BDI)

Text Book:

- Carson R.C., Butcher J.N., Mineka, S., & Hooley J.M. (2007). Abnormal Psychology (13th Ed.).ND: Pearson Education.
- Irwin G. Sarason, Barbara Sarason (2005). Abnormal Psychology. New Delhi: Prentice Hall Publication
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, DivyaPrakashani, Samantarapur, Bhubaneswar.

Reference Book:

- Kring,A.M.,Johnson,S.L.,Davison G.C. & Neale J.M. (2010). Abnormal Psychology (11th Ed.).NY: John Wiley

**Discipline Specific Elective-I
BASIC DEVELOPMENTAL PROCESSES**

Introduction: The course is designed to expose students to a basic understanding about the fundamental concerns of developmental psychology and provide examples of the following three dimensions of development: growth, differentiation, and orderly progression.

Learning Objectives:

- To help students gain some key ideas about human development and the perspectives to understand and explain such developments.
- To help the students understand the significance of prenatal period for human development.
- To help the students understand the developmental preparations of the childhood and the implications of developmental milestones for the normal human development.

Expected outcomes: Students will be able to

- Understand the nature, types, and principle of development.
- Understand the processes of formation of life and development during pre- and post-natal periods.
- Understand about the different aspects of preparation for future life.

UNIT-I: Basics of development

(i) Meaning, nature, and types of development; Principles of development; Factors influencing development

(ii) Perspectives of development- Psychoanalytic; Mechanistic; Organismic; Humanistic

UNIT- II: Life in formation

- (i) Fertilization, determination of sex, multiple birth; Prenatal development- germinal stage, embryonic stage, fetal stage; Factors influencing prenatal development. Impact of perinatal processes on development
- (ii) Physical and motor developments, Social and emotional developments during childhood.

UNIT –III: Life in preparation

- (i) Physical and motor developments, Social and emotional developments during adolescence.
- (ii) Piaget's stage of cognitive development; Kohlberg's stages of moral development

Unit IV: Self and identity

- (i) Emergence of self; Structure of the self; Development of personal identity
- (ii) Development of self-control; Development of gender differences and gender roles

Practical:

- (i) Locus of Control:** To assess the Locus of Control of four college students by using Rotter's Locus of Control Scale.
- (ii) Emotional Intelligence:** To measure the emotional intelligence of four college students by using the Schutte's Emotional Intelligence Scale

Text Book:

- Sigelman, G.K. & Schaffer, D.R. (1995). Life-span Human Development, Brooks / Cole Publishing Co. Pacific Grove, California
- Berk, L. E. (2010). Child Development (8th Ed.). New Delhi: Prentice Hall.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, Divya Prakashani, Samantarapur, Bhubaneswar.

Reference Book:

- Papalia, Diane E., Sally Wendos Olds (2006). Human Development. 9th Edition. New Delhi: Tata McGraw Hill
- Baron, R. A. (2002). Psychology (5th Edition), New Delhi, Pearson Education.

Discipline Specific Elective-II PROCESSES OF HUMAN EMPOWERMENT

Introduction: Human empowerment is ultimately an individual condition of gaining the power to control and modulate changes in one's own life those are considered important to one's identity and adjustment. The purpose of the course is to introduce to the students the basics of human empowerment and how the empowerment processes are strengthened and improved.

Learning Objectives:

- To help students gain ideas about intelligence and personality as foundations of human empowerment.
- To make students understand how motivation and emotion are empowering processes to human development.

- To help students gain insight into human behavior as products of empowerment.

Expected outcomes: Students will be able to

- Know the structural components and functional dynamics of both intelligence and personality.
- Understand the significance of emotion and motivation in behavior management.
- Understand significant aspects of social behavior as resulting in happiness, well-being and personal growth.

UNIT-I: Basics of empowerment

- (i) Intelligence- Heredity, environment, and intelligence, Theories of Gardner, Stenberg, & PASS
- (ii) Measuring Intelligence: intelligence tests; Interpretation of test score, Cross-cultural issues in testing intelligence

UNIT- II: Sources of Power (1)

- (i) Personality- Freud's theory, and Social cognitive theory
- (ii) Personality-Trait and type approach, Biological and sociocultural determinants, Psychometric and projective assessment.

UNIT III: Sources of Power(2)

- (i) Motivation-Drive theory, Arousal theory, Expectancy theory, Maslow's need hierarchy
- (ii) Emotion-Theories of James-Lange, Cannon-Bard, &Schachter-Singer

UNIT –IV: Proving empowered

- (i) Social behavior- Meaning of attribution and errors in attribution, Meaning of social cognition and processing of social information
- (ii) Positive Psychology-Scope and aims, Nature and characteristics of happiness, Subjective well-being and personal growth

Practical:

(i) Intelligence test- To test the non-verbal intelligence of Two college students using Raven's Standard Progressive Matrices

(ii) Personality Type- To assess the personality type of a student obtaining responses from the student and two other significant persons in his /her life by using Glazer's test of Personality Type

Text Book:

- Baron, R.A. (1995).Psychology- The Essential Science, Pearson Education Company of India Pvt. Ltd.
- Gerrig, R.J. & Zimbardo, P.G. (2010). Psychology and Life (19th Ed.). Delhi: Allyn& Bacon
- Snyder, C.R. & Shane, J.L. (2005) Handbook of Positive Psychology: Oxford University Press.
- Mohanty, N., Varadwaj, K. & Mishra, H.C. (2014). Explorations of Human Nature and Strength: Practicals in Psychology, Divya Prakashani, Samantarapur, Bhubaneswar.

Reference Book:

- Baron, R. A. & Byrne, D. (2003). Social Psychology, 10th Edition, Prentice Hall
- Misra, G. (2009). Psychology in India, Vol 1: Basic Psychological Processes and Human Development. India: Pearson
- Dash, U.N., Dash, A.S., Mishra, H.C., Nanda, G.K. & Jena, N. (2004). Practical Exercises in Psychology: Learning about Yourself and Others. Panchasila, Bhubaneswar

Optional Skill Enhancement Course -II Paper
Total Marks- 100, Credit - 04 & Teaching hours – 40 hours
PERSONALITY AND LIFE SKILL DEVELOPMENT

Introduction: The course is designed to help the students understand the importance of the life skills and develop a positive attitude for leading a successful life.

Learning Objectives:

- To help the students to be aware about the importance attitude in life.
- To help them understand what is holding us back and how to motivate self and others.
- To help them understand the importance of interpersonal skill.

Expected outcomes: Students will be able to

- The students will develop confidence by mastering the seven steps to positive thinking and be successful by turning weaknesses into strengths.
- The students will be able to build trust by developing mutual respect with people around them.

UNIT-I

(i) **Attitude:** The benefits of positive attitude; The consequences of negative attitude; Factors that determine attitude.

(ii) **Building positive attitudes:** Eight steps to change attitude; Attitude of winners versus losers

UNIT- II

(i) **Success:** What is success? Obstacles to success; Qualities of a successful person

(ii) **Holding back:** What is holding us back? Reasons that we don't achieve excellence

UNIT –III

(i) **Motivation:** Meaning of motivation; Internal and external motivation; Stages from motivation to demotivation.

(ii) **Self Esteem:** Meaning of self-esteem; Advantages of high self-esteem; Causes of low self-esteem; Steps to building a positive self-esteem.

UNIT -IV

(i) **Interpersonal skills:** What is positive relationship; Factors preventing positive relationships; Perception of relationships

((ii) **Positive personality:** Characteristics of positive personality; Steps to building a positive personality

UNIT -V

(i) **Habits:** What is habit? Subconscious mind and habits; Forming positive habits

(ii) **Goal setting:** What is goal setting? Goal setting and achievement; Why don't more people set goals

Text Books:

- Khera, Shiv. (2007). You can win. Macmillan India Ltd. New Delhi
- Dale, Carnegei. How to win Friends and influence people.

List of Instruments for Psychology Practical

1.	Raven's Coloured Progressive Matrices
2.	Raven's Standard Progressive Matrices
3.	Aesthesio meter
4.	Whipple's Box Weight Box
5.	Memory Apparatus
6.	Other Paper Pencil Tests

Faculty Training on Psychology Syllabus (21 Days Module)

Sl No.	Subjects/Papers	Semester	No. of Classes (Total 168 periods) Each Period-45 mts
1	Statistics and SPSS (Core-V, Hons)	Semester-III	40
2	Environmental Psychology (Core-VI, Hons)	Semester-III	16
3	Psychological Research and Measurement (DSE-I)	Semester-V	24
4	Psychology and Social Issues (DSE-II)	Semester-V	16
5	Positive Psychology (Core-XIV, Hons)	Semester-VI	16
6	Psychology of Disability (DSE-III)	Semester-VI	16
7	Psychology of Crime (DSE-IV)	Semester-VI	16
8	Practical	All Semesters	24

**STATE MODEL SYLLABUS FOR
UNDER GRADUATE
COURSE IN PUBLIC ADMINISTRATION
(Bachelor of Arts Examination)**

UNDER CHOICE BASED CREDIT SYSTEM

PUBLIC ADMINISTRATION

Framework of CBCS Syllabus for PUBLIC ADMINISTRATION (Honours) from 2019-20					
Full Forms of Course Codes Used: CC = Core Course, AECC = Ability Enhancement Compulsory Course, SEC = Skill Enhancement Course, DSE = Discipline Specific Elective (Related to Core Subject), GE = Generic Elective (Not related to Core Subject; 2 different subjects of 2 papers each). Total Marks: CC (1400) + AECC (200) + SEC (200) + DSE (400) + GE (400) = 2600					
Semester	CC 14 papers 100 X 14 = 1400; Credits=14x6=84	AECC 2 Papers 100 X 2 = 200	SEC 2 Papers 100 X 2 = 200	DSE 4 Papers 100 X 4 = 400 4x6=24 credits	GE 4 Papers 100 X 2 X 2 = 400
I	CC-1: Concepts & Approaches in Public Administration	AECC-I Environmental Science			GE Paper-I: Concepts & Approaches in Public Administration
	CC-2: Classical Administrative Thought				
II	CC-3: Indian Administration	AECC-II MIL Communication (Odia/English)			GE Paper-II: Indian Administration
	CC – 4: Modern Administrative Thought				
III	CC – 5: Comparative Public Administration		SEC-1 English language skill		GE Paper-III: State Administration in India
	CC – 6: State Administration in India				
	CC – 7: Rural Governance in India				
IV	CC – 8: Development Administration		SEC-2 Vulnerability and Public Policy		GE Paper-IV: Social Welfare Administration
	CC – 9: Urban Governance in India				
	CC – 10: Social Welfare Administration				
V	CC – 11: Organisational Behaviour			DSE-1: Citizen-Administration Interface	
	CC – 12: Public Personnel Administration			DSE-2: Psychology and Social Issues	
VI	CC – 13: Financial Administration			DSE-3: Disaster Management	
	CC – 14: Research Methodology			DSE-4: Tribal Administration in India/Project	

Core course – 14 papers, Discipline Specific Elective – 4 papers
Generic Elective for non Public Administration students – 4 papers. In case University offers 2 subjects as GE, then papers 1 and 2 will be the GE paper.

Scoring System for Papers with Practical:

Marks per paper - Midterm: 15 marks, Practical: 25 marks, End term: 60 marks, Total: 100 marks
Credit per paper – 6, Teaching hours per paper – 40 hours theory + 20 hours practical

Scoring System for Papers without Practical:

Marks per paper - Midterm: 20 marks, End term: 80 marks, Total: 100 marks
Credit per paper – 6, Teaching hours per paper – 50 hours + 10 hours tutorial

Core Paper I

CONCEPTS AND APPROACHES IN PUBLIC ADMINISTRATION

Introduction:

The course is designed to provide the students a basic understanding of the principles of public administration. The students will be given exposure to concepts, terminology, principles, and theories that comprise an introductory course in public administration

Learning Objectives:

- To help the students know the sources and processes of development of public administration.
- To help the students develop a scientific temperament in studying and understanding administration of a state.

Expected outcomes: Students will be able to

- Define the term public administration and understand the basic terminology, concepts, and principles of the discipline.
- Gain knowledge of scientific methodology—the various ways in which administrative practices has been evaluated / interpreted.
- Identify and compare the major perspectives in public administration: Recognize how each approach views administration and administrative behaviour.

UNIT 1: Introducing Public Administration

- (i) Public Administration: Meaning, Is Public Administration a science? Public vs. Private Administration
- (ii) Evolution of the discipline of Public Administration and its Significance, Scope: Managerial and Integral View

UNIT 2: Principles of Organisation

- (i) Hierarchy, Unity of Command, Span of Control, Concept of Line and Staff, Delegation of Authority, Authority and Accountability
- (ii) Co-ordination, Centralisation versus Decentralisation,

UNIT 3: Concepts of Public Administration

- (i) Types of Organization: Formal and informal, Government and Non Government, organizations in organized and unorganized sectors
- (ii) Delegated Legislation- Salient features, causes of its growth, advantages and disadvantages; Administrative Adjudication- Salient features, causes of its growth, advantages and disadvantages

UNIT 4: Methods of studying Public Administration

- (i) Approaches to the Study of Public Administration, Traditional vs. Modern Approach Salient features of Classical Approach, Administrative Management Approach, Human Relations Approach
- (ii) Paradigms of Public Administration: Politico-administrative dichotomy, New Public Administration, New Public Management, Good Governance, New Public Service Approach, Feminist Approach to Public Administration

Practical:

- (i) Developing the structure of a formal organization, preparing the structure of informal organization

- (ii) Observation of the structure of a formal organization and preparing a report within 1000 words

Text Books

- Rumki Basu (2004), *Public Administration: Concepts and Theories*, Sterling Publishers Pvt. Ltd., New Delhi
- Mohit Bhattacharya (1997) *Restructuring Public Administration*, Jawahar Book Centre, New Delhi.

Reference Books

- Bidyut Chakravorty (2013), *Public Administration*”, Sage, New Delhi.
- Amita Singh 2002, “*Public Administration: Roots and Wings*” Galgotia Publishers, New Delhi
- L.D. White (1948) *Introduction to the study of Public Administration*, New Delhi, Macmillan Publication.
- S.P.Naidu (1996), *Public Administration: Concepts and Theories*, New Age International Publications, New Delhi.
- K.K. Ghai (2015), *Public Administration*, Kalyani Publishers, Cuttack, Odisha.

Core Paper II

CLASSICAL ADMINISTRATIVE THOUGHT

Introduction: The course is designed to provide the students a basic understanding of the development of administrative thought. The students will be given exposure to life of administrative thinkers and various concepts and theories propounded by them.

Learning Objectives:

- To help the students know the development of administrative situation in different era.
- To help the students develop an understanding of various paradigms in administration.

Expected outcomes: Students will be able to

- Understand the administrative philosophy given by different thinkers
- Gain knowledge of administrative practices and problems in different periods of history
- Compare the major thoughts in public administration

UNIT 1: Introduction to Classical Administrative Thought

- (i) Kautilya - Elements of State Administration
- (ii) Woodrow Wilson – Administrative Science, Politics and Administration, Comparative Method

UNIT 2: Administration and Management

- (i) Fredrick Taylor – Principles of Scientific Management, Functional Foremanship
- (ii) Henry Fayol - Principles of Management, Concept of Gangplank, Comparison between Fayol and Taylor

UNIT 3: Administration and Organization

- (i) Max Weber - Methodology of Ideal Type, Types of Authority, Bureaucracy, A critique of weberian bureaucracy
- (ii) Luther Gullick - Principles of Organization, Bases of Departmentalization

UNIT 4: Neo-classical Administrative Thought

- (i) Elton Mayo- Great Illumination experiment, social organization experiment, features of Human Relations School
- (ii) Mary Parker Follet - Power, Authority, Constructive Conflict

Text Books:

- D. Ravindra Prasad, V.S. Prasad, P. Satyanarayan, Y. Pardhasarathi (2014), *Administrative Thinkers*, New Delhi, Sterling Publishers.
- Shriram Maheswari (2003), *Administrative Thinkers*, Delhi, Macmillan.

Reference Books

- F.W.Taylor, (2006) *The Principles of Scientific Management*, Cosmo Classics, New York.
- Henry Fayol.(1949), *General and Industrial Management*, Pitman, London
- Henry Metcalf & L. Urwick,(1942), *Dynamic Administration: The Collected Papers of Mary Parker Follett*, Martino Fine Books
- Bidyut Chakravorty (2013), *Public Administration*”, Sage, New Delhi.

Core Paper III

INDIAN ADMINISTRATION

Introduction: The course is designed to provide the student a basic understanding of the evolution of Indian Administration, various provisions of Indian Constitution and structure and functioning of public institutions in India.

Learning Objectives:

- To help the students to understand the constitutional history of India
- To help the students gather knowledge about the structural and functional dynamics of Indian administration.

Expected outcomes: Students will be able to

- Understand the evolution of Indian Administration in terms of changes and continuities.
- Gain knowledge of the rights and duties of Indian Citizens
- Understand the structural and functional properties of various constitutional offices and public institutions and so on.

UNIT 1: Evolution of Indian administration

- (i) Indian Administration in British Era: Govt. of India Act 1935, Indian Independence Act 1947
- (ii) Preamble, Salient Features of Indian Constitution, Federalism in India

UNIT 2: Rights and Duties of Indian Citizens

- (i) Fundamental Rights (FRs)- its features and limitations
- (ii) Directive Principles of State Policy (DPSP), Distinction between Fundamental Rights and Directive principles of State Policy Fundamental Duties

UNIT 3: Union Government:

- (i) President, Prime Minister, Council of Ministers, Central Secretariat, Cabinet Secretariat Prime Minister's Office (PMO)
- (ii) Parliament: Lok Sabha and Rajya Sabha; Supreme Court, Women's participation in legislative politics

UNIT 4: Constitutional and Statutory Bodies: Their Composition and Functional Dynamics

- (i) Finance Commission, Election Commission,
- (ii) National Development Council (NDC), Inter-State Council, Planning Commission and NITI Aayog – Planning Commission- its vital role and significance till its dissolution and Difference between Planning Commission and NITI Aayog.

Practical:

- (i) Designing of a mock Parliament, Functional Design of Lok sabha and Rajya Sabha
- (ii) Organogram of PMO, Central Secretariat, Cabinet Secretariat

Text Books:

- B.L. Fadia and Kuldeep Fadia, (2014) “*Indian Administration*” Sahitya Bhawan, Agra
- Bidyut Chakrabarty, Prakash Chand, (2016), “*Indian Administration : Evolution and Practice*”, SAGE Publications, New Delhi

Reference Books

- Amita Singh, (2005), *Administration Reforms*, Sage Publications ,New Delhi
- Kuldeep Mathur,(2015), *Government to Governance*, National Book Trust
- Hoshier Singh and Pankaj Singh (2011), *Indian Administration*, Pearson, Delhi.
- S.R. Maheswari (2011), *Indian Administration*, New Delhi, Orient Longman.
- Pratap Bhanu Mehta & Nirja Gopal Jayal (2011), *The Oxford Companion to Politics in India*, Oxford University Press, New Delhi.
- Padmalaya Mahapatra, (2013), “*Indian Administration: Central – State – District*”, Gyanayuga, Bhubaneswar

Core Paper IV

MODERN ADMINISTRATIVE THOUGHT

Introduction: The course is designed to provide the students a basic understanding of the development of administrative thought. The students will be given exposure to life of administrative thinkers and various concepts and theories propounded by them.

Learning Objectives:

- To help the students know the development of administrative situation in different era.
- To help the students develop a understanding of various paradigms in administration.

Expected outcomes: Students will be able to

- Understand the administrative philosophy given by different thinkers
- Gain knowledge of administrative practices and problems in different periods of history
- Compare the major thoughts in public administration

UNIT 1: Administrative Psychological Thought

- (i) Abraham Maslow: Need Hierarchy Theory
- (ii) McGregor: Theory X vs. Theory Y
- (iii) Herzberg: Two Factor Theory

UNIT 2: Administrative Behavioural Thought

- (i) Chester Barnard: Features of Organization, Functions of Executive
- (ii) Herbert Simon: Decision-Making Model
- (iii) Chris Argyris: Maturity-Immaturity Theory, Organisational Learning

UNIT 3: Administrative State Thinkers

- (i) Karl Marx : Administrative state
- (ii) Mahatma Gandhi: Ideal State

UNIT 4: Administrative Development Thought

- (i) Fred Riggs: Prismatic Model
- (ii) Peter Drucker: Management by Objective

Text Books:

- D.Ravindra Prasad, V.S. Prasad, P. Satyanarayan, Y. Pardhasarathi (2014), *Administrative Thinkers*, New Delhi, Sterling Publishers.
- Shriram Maheswari (2003), *Administrative Thinkers*, Delhi, Macmillan.

Reference Books

- Chester Barnard, (1938), *Functions of Executive*, Harvard University Press
- Peter Drucker, (1954), *Principles of Management*, Harper collins
- Herbert Simon,(1947), *Administrative Behavior*, Macmillan, USA
- Fred Riggs,(1961), *The Ecology of Public Administration*, Asia Publishing House, London
- Bidyut Chakrabarty (2013), *Public Administration*, Sage, New Delhi.

Core Paper V

COMPARATIVE PUBLIC ADMINISTRATION

Introduction: The course is designed to provide the students a basic understanding of the comparative perspectives in public administration. The students will be given exposure to concepts, terminology, and theories that comprise an introductory course in comparative public administration

Learning Objectives:

- To help the students know the various techniques of public administration in major democracies in the world
- To help the students develop a scientific understanding of operation of various organ of government in different countries.

Expected outcomes: Students will be able to

- Define the term comparative public administration and understand the basic terminology, concepts, and paradigms of the discipline.
- Gain knowledge of select world constitutions..
- Compare the major administrative systems.
- Gather knowledge on various democratic views administration and administrative behaviour.

UNIT 1: Introduction to comparative public administration

- (i) Comparative Public Administration: Meaning, Significance and Evolution
- (ii) Fred Riggs: Models of Comparative Public Administration

UNIT 2: Comparative perspective of major democracies

- (i) Concept of Democracy: Meaning, Significance and Types
- (ii) Comparing the democratic political system of India, U.K., U.S.A. and Switzerland

UNIT 3: Executive systems of the World

- (i) Salient Features of the Democratic Constitutions of U.K. and U.S.A.
- (ii) Structural and Functional dynamics Executive Systems of U.K. – Crown. Prime Minister;

President of US

UNIT 4: Comparative perspective of Legislative and Judicial Systems

- (i) Structure and Functional dynamic of British Parliament, structure and Functions of U.S.A. congress
- (ii) Comparing British Judiciary and American Judiciary

Text Books:

- Vishnoo Bhagwan, Vidya Bhushan (1998), *World Constitutions*, Sterling Publisher Private Limited.
- K.K. Ghai (2013), *Major Governments, Political System of U.K., USA, Switzerland, France and China*.

Reference Book:

- Ferrel Hardy, (2001), *Public Administration: A Comparative Perspective*, Marcel Dekker, USA
- Robert L. Maddex (1995), *Constitutions of the World*, Cq Press, 1995.
- U.N. Gupta (2009), *Select World Constitutions*, Atlantic Publishers & Distributors, New Delhi.
- Ramesh K. Arora (1998), *Comparative Public Administration*, Associated Publishing House.

Core Paper VI

STATE ADMINISTRATION IN INDIA

Introduction: The course is designed to provide the student a basic understanding of State Administration in India, the dynamics of relations between Union and the States.

Learning Objectives:

- To help the students to understand the dynamic relation between centre and state in Indian federation
- To help the students gather knowledge about the structural and functional dynamics of State judicial system

Expected outcomes: Students will be able to

- Understand the functioning of administrative institutions in a state.
- Gain knowledge of the judicial process in Indian States
- Understand the structural and functional dynamics of administrative institutions at district and block level.

UNIT 1: State Administration

- (i) State Executive-Powers and Functions of Governor, Chief Minister and Council of Ministers
- (ii) Structural and functional dynamics of State Vidhan Sabha and Vidhan Parishad, Women's participation in Legislative politics

UNIT 2: State Judiciary

- (i) Structure, Functions and powers of High Court
- (ii) Composition and functions of subordinate judiciary, Types of subordinate courts

UNIT 3: Relations between the Union and the States

- (i) Centre State Relations: Administrative, Legislative and Financial Relations
- (ii) Sarkaria Commission Recommendations

UNIT 4: Structure and Functions of Administration in Odisha

- (i) Role and functions of Chief Secretary, Board of Revenue, Revenue Divisional Commissioners
- (ii) District Administration- Composition and Changing Role of Collector, Composition and Role of Block Development Officer in Block Administration, Women's participation in administration

Practical:

- (i) Organization of Subordinate Judiciary
- (ii) Organization of Block and District Administration

Text Books:

- B.L. Fadia and Kuldeep Fadia (2014), *Indian Administration*, Sahitya Bhawan, Agra..
- Bidyut Chakrabarty, Prakash Chand (2016), *Indian Administration: Evolution and Practice*, SAGE Publications, New Delhi.

Reference Books

- Kuldeep Mathur,(2009),*Policy-Making in India: Who Speaks? Who Listens?*, Hindustan Publishing corporation.
- Hoshiar Singh and Pankaj Singh (2011), *Indian Administration*, Pearson, Delhi.
- S.R. Mahesswari (2011), *Indian Administration*, New Delhi, Orient Longman.
- Pratap Bhanu Mehta & Nirja Gopal Jayal (2011), *The Oxford Companion to Politics in India*, Oxford University Press, New Delhi.
- Padmalaya Mahapatra (2013), *Indian Administration: Central – State – District*, Gyanayuga, Bhubaneswar.

Core Paper VII

RURAL GOVERNANCE IN INDIA

Introduction: The course is designed to provide the student a basic understanding of local administration in India, the dynamics of relations between the State and local bodies

Learning Objectives:

- To help the students to understand the dynamic relation between state and local bodies in Indian federation
- To help the students gather knowledge about the structural and functional dynamics of Panchayati Raj institutions

Expected outcomes: Students will be able to

- Understand the functioning of administrative institutions at local level in a state.
- Gain knowledge of the functioning of administration at grassroot level
- Understand the structural and functional dynamics of administrative institutions at district and block level.

UNIT 1: Introduction to Local Self-government

- (i) Necessity of Local Governance, Difference between local government and local governance, Evolution of Local Self Government in India

- (ii) Evolution of Rural local self-government in India, Salient Features of 73rd Constitutional Amendment Act, Women and rural governance

UNIT 2: Structure of Rural local Governance

- (i) Structure and function of Gram Sabha, Role of Gram Sevak, Gram Panchayat: Structure, Functions and Sources of Finance
(ii) Panchayat Samiti: Structure, Functions and sources of Finance; Zilla Parishad: Structure, Functions and sources of Finance, Women's participation in panchayat administration

UNIT 3: Implementation of Rural Development Programmes

- (i) Sarva Sikshya Abhiyan, MGNREGA
(ii) National Health Mission, rural development programmes for Housing and Sanitation, Women's engagement in National Health Mission

UNIT 4: State-Local Relations

- (i) Status of devolution of power to local bodies, Autonomy and control of rural local bodies
(ii) Structure and Functional dynamics of State Election Commission and State Finance Commission

Practical

- (i) Implementation of Sarva Sikshya Abhiyan in a Block, Implementation of MGNREGA in a Panchayat
(ii) Implementation of National Rural Health Mission in a Panchayat, Implementation of PDS

Text Books:

- Bijoyini Mohanty (2012), *Glimpses of Local Governance*, Kunal Books..
- Kuldeep Mathur (2013), *Panchayati Raj*, Oxford, New Delhi.

Reference Books

- Sriram Maheswari (1971), *Local Government in India*, Orient Longman
- Manoj Sharma (2004), *Local Government - Rural and Urban*, Anmol Publications Pvt. Ltd, New Delhi.
- B.N. Ahuja, S.S. Chhabra (1993), *Panchayati Raj*, Surjeet Publications, New Delhi.

Core Paper VIII

DEVELOPMENT ADMINISTRATION

Introduction: The course is designed to provide the student a basic understanding of development and development administration. It initiates the discussion on changing role of Non-Governmental Organizations and bureaucracy in administration.

Learning Objectives:

- To help the students understand the dynamics of development administration.
- To help the students gather knowledge about the structural and functional dynamics of institutions engaged in development administration.

Expected outcomes: Students will be able to

- Understand the diverse perspectives on development adopted by nations.
- Gain knowledge of the goals and strategies of development adopted by India.
- Understand the structural and functional dynamics of administrative institutions engaged in

making and implementing development programmes.

UNIT 1: Introduction to Development Administration

- (i) Defining development administration, evolution of the concept, Difference between Development administration and administrative development.
- (ii) Features of development administration, Distinction between development administration and traditional administration, Need and Scope of Development Administration.

UNIT 2: Dynamics of Development

- (i) Dimensions of Development, Problems of Development.
- (ii) Features of Under Developed, Developing and Developed Countries, Administrative Capability for development.

UNIT 3: Development Planning

- (i) Meaning and nature of development planning, Mixed Economy Model.
- (ii) Planning Machinery in India: State Planning Board, District Planning Committee in India and NITI Aayog.

UNIT 4: Mechanisms of Development Administration

- (i) Role of Non-Governmental Organizations, Community Based Organisations (CBOs), Self Help Groups and Cooperatives in Rural Development, Women's participation in development administration.
- (ii) Role of Bureaucracy in development, People's Participation in development.

Text Books:

- R.K. Saprú (2014), *Development Administration*, Sterling Publishers, New Delhi.
- Mohit Bhattacharya (2011), *Social Theory and Development Administration*, Jawahar Publishers and Distributors, New Delhi.

Reference Books

- V.A. Pai Panandikar (ed) (1974), *Development Administration in India*, Macmillan, New Delhi.
- Rayanimana Pattanayak (1997), *Dynamics of Development Administration*, Anmol Publications Pvt. Ltd. New Delhi.
- Edward W. Weidner ,Ed. (1970),*Development Administration in Asia*.Durham, N.C.: Duke University Press,
- Kuldeep Mathur, (1996), *Development Policy and Administration: Readings in Indian Government and Politics*, Sage Publication

Core Paper IX

URBAN GOVERNANCE IN INDIA

Introduction: The course is designed to provide the student a basic understanding of urban development in India. It intends to initiate discussion among students about the mechanisms and methods on how the public service delivery is conducted through local level administrative institutions.

Learning Objectives:

- To help the students understand the dynamic relation between state and urban local bodies in Indian federation
- To help the students gather knowledge about the structural and functional dynamics of various urban local bodies in India

Expected outcomes: Students will be able to

- Understand the functioning of administrative institutions at local level in a state.
- Gain knowledge of the functioning of administration at grass root level in urban areas
- Understand the structural and functional dynamics of administrative institutions at district level for urban development

UNIT 1: Historical context of Urban governance in India

- (i) Meaning of urbanization, growth and problems of urbanization, necessity and evolution of Urban Local Government in India
- (ii) Salient Features of 74th Constitutional Amendment Act of 1992, women and urban governance

UNIT 2: Structure and functional dynamics of urban governance

- (i) Municipal Corporation (Mahanagar Nigam): Composition, Functions, Sources of Finance Mayor and Deputy Mayor: Power, Functions and Position
- (ii) Municipality (Nagar Palika): Composition, Functions and sources of finance, Notified Area Council (Nagar Panchayat): Composition, functions and sources of finance, Women's participation in urban local bodies

UNIT 3: Various aspects of contemporary urban development in India

- (i) Urban Development Programmes for Education, Employment and Health
- (ii) Salient features of SMART City programme and Swatcha Bharat Mission

UNIT 4: Changing profile of urban governance in India

- (i) Problems and Prospects of Urban Local Administration
- (ii) People's Participation in Urban Local Administration

Practical:

- (i) Evaluation of implementation of a public policy for urban development in an urban area
- (ii) A case study of people's participation in urban local governance

Text Books:

- Bijoyini Mohanty (2012), *Glimpses of Local Governance*, Kunal Books.
- Sriram Maheswari (1971), *Local Government in India*, Orient Longman.

Reference Books

- Manoj Sharma (2004), *Local Government - Rural and Urban*, Anmol Publications Pvt. Ltd, New Delhi.
- Sharda Chopra (2005), *Dynamics of Municipal Administration*, Surjeet Publications, Delhi.

Core Paper X**SOCIAL WELFARE ADMINISTRATION**

Introduction: The course is designed to provide the student a basic understanding of welfare administration in India as welfare is an essential aspect of development administration. It will expose the

students to the wider scope of major welfare schemes working in our country ,development and development administration.

Learning Objectives:

- To help the students understand the dynamics of social welfare administration.
- To help the students gather knowledge about the structural and functional dynamics of institutions engaged in social welfare administration

Expected outcomes: Students will be able to

- Understand the diverse perspectives on development adopted by nations.
- Gain knowledge of the goals and strategies of development adopted by India
- Understand the structural and functional dynamics of administrative institutions engaged in making and implementing development programmes.

UNIT 1: Introduction to social welfare

- (i) Definition of Social Welfare, Diverse perspectives on social welfare, distinction between Social welfare and development Administration
- (ii) Universal Declaration of Human rights as basis of social welfare, Gender and social welfare

UNIT 2: Dynamics of Social Welfare administration in India

- (i) Central Social Welfare Board and State Social Welfare Boards
- (ii) Human Rights Commissions: National-Level and State-Level

UNIT 3: Social Welfare Services in India

- (i) A critical analysis of provisions and implementation of National Health Mission, Right to Education Act, 2009
- (ii) Welfare, Development, Empowerment of women in India, National Commission for Women

UNIT 4: Welfare Programmes and Marginalised Groups in India

- (i) Welfare Programme -1 for Scheduled Caste (SC), Scheduled Tribe (ST), and Minorities: National Commission for Scheduled Castes, National Commission for Scheduled tribes
- (ii) Welfare Programmes -2 for Other Backward Class (OBC) and Socially & Educationally Backward Classes (SEBC), National Commission for OBC

Text Books:

- Dr. D.R. Sachdeva (2013), *Social welfare Administration in India*, Kitab Mahal.
- V.A. Pai Panandikar (1974), *Development Administration in India*, Macmillan, New Delhi.

Reference Books

- Jean Dreze (Ed.), (2016), *Social Policy*, New Delhi: Orient BlackSwan
- Kuldeep Mathur, (2015), *Public Policy and Politics in India: How Institutions Matter* (Oxford India Paperbacks)
- Vijay Kumar K.(2012), *Right to Education Act 2009: Its Implementation as to Social Development in India*, Akansha Publishing House, Delhi.
- Navneeta Rath, (2014) *Gender and Society*, Mayur Publications
- S.K. Jena (2003), *Rural Sociology*, Elegant Publications, Bhubaneswar.

Core Paper XI

ORGANISATIONAL BEHAVIOUR

Introduction: The course provides an overview of the main fields of organizational and personnel behaviour. It focuses on topics such as organizational system; work behavior, attitudes and motivation as related to organizational set up; and finally development and evaluation of human resources for sustainable growth of an organizations.

Learning Objectives:

- To help students able to understand the structure, functions, and designs of different organizations.
- To make students understand the processes of group decision making and leadership functions in different organizations.
- To make students understand the theories of work motivation
- To help students demonstrate professional skills in the evaluation, management, and development of human resources in the organizations.

Expected outcomes: Students will be able to

- Understand different concepts and dynamics related to organizational system, behavior, and management.
- Identify steps managers can take to motivate employees in the perspectives of the theories of work motivation
- Understand significance of human resource development, evaluation and management for the interest and benefit of the organization.

UNIT 1: Historical context of Organizational Behaviour

- (i) Meaning and Scope of Organizational behaviour
- (ii) Various aspects of Organizational Culture and Dynamics of Organizational Development

UNIT 2: Making of decisions in an organization

- (i) Meaning of decision-making Factors influencing decision-making
- (ii) Different stages of decision-making, Types of decision, Models of decision-making

UNIT 3: Communication:

- (i) Meaning, Principles, Types and Process of Communication
- (ii) Meaning of control, Process and Techniques of control

UNIT 4: Dynamics of Leadership

- (i) Meaning, Styles and Functions of leadership, Theories of Leadership and Qualities of a good leader
- (ii) Importance of motivation in organizational efficiency and effectiveness

Text Books

- Aswathappa K, (2016), *Organisational Behaviour*, Himalaya Publishing House, Mumbai.
- Niranjana Pani (2009), *Management Concepts: Organizational Behaviour, Human Resource Management*, Kunal Books, New Delhi.

Reference Books

- Fred Luthans (2000), *Organisational Behaviour*, M.C. Graw- Hill, New York.
- L.M. Prasad (2014), *Organisational Behaviour*, Sultan Chand & Sons, New Delhi.
- S.S. Khanka (2011), *Organisation Behaviour*, S. Chand and Company Ltd., New Delhi.
- Kimberly D. Elsbach, Anna Kayes & D. Chris Kayes (2016), *Contemporary Organizational Behavior*, Pearson, Delhi.

Core Paper XII

PUBLIC PERSONNEL ADMINISTRATION

Introduction: The course provides an overview of public personnel administration in India. It focuses on topics such as civil service in developing countries, bureaucracy, recruitment, training and welfare of employees.

Learning Objectives:

- To help students able to understand the structure, functions, and designs of bureaucracy and civil service in India
- To make students understand the processes of recruitment and training for civil servants in the country
- To help students to gather knowledge with regard to the rights, duties and privileges of the civil servants.

Expected outcomes: Students will be able to

- Understand different concepts and dynamics related to bureaucracy and public personnel management.
- Identify the avenues for training for professional development of employees.
- Understand significance of civil service in developing societies.

UNIT 1: Introduction to Public Personnel Administration

- (i) Meaning of public personnel administration and its nature and scope
- (ii) Civil Service: Meaning, Features and Role in Developing Societies

UNIT 2: Bureaucracy

- (i) Definition of Bureaucracy, Types of Bureaucracy and Position Classification
- (ii) Recruitment: Meaning, Direct and indirect recruitment-its advantages and disadvantages, Composition and functions of Union Public Service Commission and State Public Service Commission, Methods of recruiting civil servants in India

UNIT 3: Dynamics of Personnel Development

- (i) Training: Meaning, Role and Objectives, Types of training, Techniques of training and names of premier Training Institutions in India
- (ii) Promotion: Meaning, Elements and Types, Principles of a sound promotion system and Promotion in India

UNIT 4: Personnel Welfare

- (i) Employees' Welfare: Pay and Service Conditions; Allowances
- (ii) Leave, Retirement Benefits and Rights and privileges of Civil Servants, Accountability of civil servants in India

Text Books:

- Rajesh K. Jha (ed) (2012), *Public Personnel Administration*, Pearson, New Delhi.
- Bata K. De (1991), *Personnel Administration in India: Retrospective Issues, Prospective Thought*, Uppal publications, New Delhi.

Reference Books

- W. Procter Arthur (2017), *Principles of Public Personnel Administration*, Forgotten Books, London.

- R.D Aggarwal (2015), *Dynamics of Personnel Management in India*, Tata McGraw Hill Publishing Company, New Delhi.
- S.L. Goel (1984), *Public Personnel Administration*, Sterling, New Delhi.
- Jack Robin, Thomas Vocina, W Bartley Hildreth & Gerald J. Miller (1995), *Handbook of Public Personnel Administration*, Marcel Dekker Inc., New York.

Core Paper XIII

FINANCIAL ADMINISTRATION

Introduction: This course has been designed to enable the students to have basic knowledge of the Financial system of India. It focuses on topics, concepts and methods related to financial management, audit and budget.

Learning objectives:

- To help students to learn how finance management is conducted in the country.
- To guide students to understand the process of budget-making in India
- To encourage the students to learn ways to examine and evaluate financial propriety of public funds used in implementation of public policy

Expected outcomes: The students will be able to

- Understand the dynamics of budget preparation in India
- Gain knowledge about how audit is conducted in the
- Understand the significant aspects of monetary policy.

UNIT 1: Dynamics of Financial Administration

- (i) Different aspects of Financial Administration, meaning and forms of accounting, Principles of accounting in India, power and functions of Controller General of Accounts (CGA) in India
- (ii) Auditing: definition and types, nature of auditing in India, power and functions of Comptroller and Auditor General of India (CAGI)

UNIT 2: Parliamentary control over public expenditure

- (i) Budget: Concept and Principles
- (ii) Budget System in India, Budgetary Process in India: Preparation, Passing and Execution.
- (iii) Estimates Committee, Public Accounts Committee and Committee on Public Sector Undertakings

UNIT 3: Financial relationship between centre and states

- (i) Centre - State Financial Relationship, Functions of Reserve Bank of India
- (ii) Finance Ministry: History, Composition and Functions

UNIT 4: International Financial Institutions

- (i) International Monetary Fund (IMF) and World Bank (WB): Objectives, Composition and Functions.
- (ii) World Trade Organisation (WTO): Objectives, Composition and Functions.

Text Books:

- S.L. Goel, (1999), *Financial Administration and Management*, New Delhi, Sterling Publishers Private Limited
- D.M. Mithani, (2018), *International Economics*, Himalaya Publishing House

Reference Books

- Sahib Singh & Swinder Singh, *Public Personnel and Financial Administration*, New Academic Publishing Co., Jalandhar.
- Sanjeev Kumar Mahajan (2014), *Financial Administration in India*, PHI Learning.
- M.J.K. Thavaraj (2014), *Financial Administration in India*, Sultan Chand & Sons, New Delhi.

Core Paper XIV

RESEARCH METHODOLOGY

Introduction: The broad objective of designing this course is to enable the students to understand the utility and dynamics of scientific methods to do research in Social Sciences. It will educate the students in framing research problems and finding solutions by using research techniques.

Learning Objectives:

- To help students to learn how to develop scientific research designs in the study of public administration.
- To guide students to understand the previous research in their field of interest and review them to arrive at a research problem
- To encourage the students to learn ways to describe and evaluate public policy implementation.
- To help students understand the logic of hypothesis testing in both quantitative and qualitative research.

Expected outcomes: Students will be able to

- Prepare a research design to carry out a research project
- Review the related research papers to find out a research problem and relevant hypotheses
- Understand the various instruments of data collection
- Learn the use of statistical techniques for interpretation of data.
- Learn the use of Referencing styles to write reports

UNIT 1: Introduction to Social Science Research

- (i) Research: Meaning, Objectives, Methods vs. Methodology. Features of Scientific Research
- (ii) Different stages of Research
- (iii) Ethics in Research – An Brief Overview

UNIT 2: Research design and Hypothesis

- (i) Identifying the Research Problem, Hypothesis – its definition and types
- (ii) Types of Research Design and Characteristics

UNIT 3: Methods of data Collection

- (i) Sources of Data: Primary vs. Secondary Data, methods of data collection-questionnaire and schedule, interview; participant and non-participant observation
- (ii) Types of Sampling Design, Characteristics of a good Sample Design

UNIT 4: Data Analysis and Report writing

- (i) Research Reports: Structure, Components and Types, Characteristics of a Good Research Report,
- (ii) Bibliography and its Significance, APA referencing style

Text Books:

- O. R. Krishnaswamy (2013), *Methodology of Research in Social Sciences*, Himalaya Publishing House.
- Ranjit Kumar (2011), *Research Methodology: A Step by Step Guide for Beginners*, SAGE Publications India Pvt Ltd.

Reference Books

- Balaji Sathya Narayanan (2014), *Research Methodology - A Theoretical Approach*, Laxmi Publications Pvt. Ltd, Delhi.
- S.K.Mangal (2013), *Research Methodology in Behavioural Sciences*, Prentice Hall of India.
- C.R. Kothari (1990), *Research Methodology*, New Age International Publisher, New Delhi.

Discipline Specific Elective Paper-I**CITIZEN-ADMINISTRATION INTERFACE**

Introduction: The course is designed to provide the student a basic understanding of the relation between citizen and administration. It will expose the students to the wider scope of grievance redressal and accountability mechanism existing in a state.

Learning Objectives:

- To help the students to understand the dynamics of citizen's entitlements from administration.
- To help the students to gather knowledge about the grievance redressal mechanisms available to the citizens.

Expected outcomes: Students will be able to

- Understand the various provisions of Right to information Act and Right to public service Act, 2012
- Gain knowledge of the methods to assert their entitlements
- Understand the structural and functional dynamics of digital governance.

UNIT 1: The relation between state, administration and citizen

- (i) Necessity of Citizen's Participation in administration, historical context of Citizen's Charter, features of a citizen's charter, Right to Public Service Odisha Public Service Act, 2012

UNIT 2: Accountability Mechanisms

- (i) OMBUDSMAN –its features, composition, powers and functions of Lokapal in India
- (ii) Composition, powers and functions of Lokayukta with special reference to Odisha

UNIT 3: Right to Information

- (i) Evolution of Right to information, Defining right to information and limitations Me
- (ii) Salient provisions of Right to Information Act, 2005, Composition and functions of Central Information Commission and State information Commission

UNIT 4: Dynamics of Digital Governance

- (i) Definition and scope of E-Governance, National E-governance policy of India
- (ii) E-Governance Initiatives in Odisha: Core E-Governance Projects

Practical

- (i) Learning to use Right to Information (RTI) and Right to Public Service Act
- (ii) Experiencing Student Academic Management System (SAMS)

Text Books:

- Mohit Bhattacharya (2008), *New Horizons of Public Administration*, Jawahar Publishers & Distributors, New Delhi.
- Rumki Basu, (2015), *Public Administration in India*, Sterling Publishers Ltd.

Reference books

- Laxminarayan Bindhani & Padmalaya Mohapatra (2012), *E-Governance in India*, Kunal Books, New Delhi
- N.C. Mahapatra, *Law of Right to Information*, The Law House, Cuttack.

Discipline Specific Elective Paper II**ETHICS, INTEGRITY AND APTITUDE**

Introduction: Ethics and integrity in social behavior helps to establish a strong administration and good governance. It is ultimately an important requirement to control and modulate changes in one's own life those are considered important to one's identity. The purpose of the course is to introduce to the students the basics of ethics in public sphere that lead to human empowerment.

Learning Objectives:

- To help students gain ideas about ethics, integrity in character and aptitude..
- To make students understand how integrity helps in ensuring dedication to public service, tolerance and compassion.
- To help students gain insight into ethical governance.

Expected outcomes: Students will be able to

- Know the structural components and functional dynamics of professional ethics and ethical governance.
- Understand the significance of accountability for an administrator..
- Understand significant aspects of probity in governance.

UNIT 1: Introduction to Ethics and Integrity

- (i) Meaning of Ethics, Integrity and Aptitude, Ethics in Private and Public Relationship, Ethics vs. Professional Ethics
- (ii) Ethics and Human Interface: Essence and determinants, Consequences of Ethics in Human Actions, Dimensions of Ethics

UNIT 2: Aptitude and values for Civil Service

- (i) Integrity, Impartiality and Non-Partisanship
- (ii) Objectivity, Dedication to Public Service, Tolerance and Compassion

UNIT 3: Values in Administration

- (i) Ethical concerns and Dilemmas
- (ii) Accountability and Ethical Governance

UNIT 4: Probity in Governance

- (i) Philosophical Basis of Governance, Codes of Conduct for utilization of Public Funds, Challenges of Corruption

Text Books:

- Santosh Ajmera & Nanda Kishore Reddy (2014), *Ethics, Integrity and Aptitude*, McGraw Hill Education.
- M Karthikeyan (2017), *Ethics, Integrity and Aptitude*, McGraw Hill Education.

Reference Books

- G. Subba Rao & P N Roy Chowdhury (2017), *Ethics, Integrity and Aptitude*, Access Publishing.
- R Rajagopalan and Mukund Kaushal (2017), *Case Studies in Ethics, Integrity & Aptitude*

Discipline Specific Elective Paper-III**DISASTER MANAGEMENT**

Introduction: India is amongst the nations most vulnerable to natural hazards. The basic responsibility for undertaking rescue, relief and rehabilitation measures in the event of natural disasters is that of the state government concerned. Therefore, this course has been designed to educate the students in disaster management administration.

Learning Objectives:

- To help students to learn how Disaster risk reduction is designed..
- To guide students to understand the process of rescue and rehabilitation
- To encourage the students to learn ways to learn and develop community resilience in their own environment..
- To help students understand the Disaster laws.

Expected outcomes: Students will be able to

- Understand different concepts and methods related to disaster management.
- Identify the disaster-prone zones and take risk-reduction measures.
- Understand various laws relating to disaster management..

UNIT 1: Fundamentals of disaster management

- (i) Disaster vs. Hazard, Types of Hazard
- (ii) Disaster Management: Meaning, scope and significance

UNIT 2: Types of Disaster

- (i) Earthquake and Tsunami: Concepts, Causes and Consequences, Flood and Cyclone: Concepts, Causes and Consequences
- (ii) Drought and Landslide: Concepts, Causes and Consequences, Snake Bite and Lightening:

Concepts, Causes and Consequences

UNIT 3: International and national efforts for managing Disasters

- (i) International Convention-Kobe framework and Sendai Declaration
- (ii) National Disaster Management Policy; Disaster Management Act 2005, National Disaster Management Authority, National Institute of disaster management

UNIT 4: Disaster Mitigation in Odisha

- (i) Disaster Mitigation Measures: Before, During and After Disaster
- (ii) Disasters in Odisha and Approaches to Disaster Management, Odisha State Disaster Management Authority

Text Books:

- Ayaz Ahmad (2003), *Disaster Management: Through the New Millennium*, Anmol Publications.
- Arvind Kumar (2007), *Disaster Management - Recent Approaches*, Anmol Publications, Delhi.

Reference Books

- Arun Kumar (2008), *Global Disaster Management*, SBS Publication, Delhi. B. Narayan (2000), *Disaster Management*, A.P.H. Publishing Corporation, Delhi.
- Amita Singh,(2017), *Disaster Laws: The Emerging Thresholds*, Routledge Publications

Discipline Specific Elective Paper-IV

TRIBAL ADMINISTRATION IN INDIA

Introduction: The course is designed to provide the student a basic understanding of the nature of tribal problems and difficulties in the development of tribal areas in India as tribal welfare is an essential aspect of development administration. It will expose the students to the wider scope of major welfare schemes working in our country for development of tribal communities.

Learning Objectives:

- To help the students to understand the dynamics of tribal welfare administration.
- To help the students to gather knowledge about the structural and functional dynamics of institutions engaged in tribal welfare administration

Expected outcomes: Students will be able to

- Understand the diverse perspectives on tribal development adopted by nations.
- Gain knowledge of the goals and strategies of tribal development adopted by India
- Understand the structural and functional dynamics of major public policies meant for tribals in India

Unit: 1 Conceptual Understanding of Tribes

- (i) Defining a Tribe, Tradition of tribal ethnography in India.
- (ii) Tribes in India- Classification of tribes, Territorial distribution, Features of a Tribal Society

Unit 2: Approaches to Tribal Development

- (i) Tribal Development Strategies : Isolation, Assimilation and Integration
- (ii) Constitutional Provisions for Scheduled Tribes, Five Year Plans and Tribal Development, Tribal Sub-plan Approach

Unit 3: Issues of Tribal Development

- (i) Displacement, Rehabilitation and resettlement; Empowerment of Tribal women
- (ii) Migration: Issues and challenges, Trafficking of tribal Girl child, Climate change and its impact on tribal livelihood, Political process and tribals

Unit 4.: Major Public Policies for Tribal Development

- (i) Panchayat Extension to Scheduled Areas Act, 1996: Issues and challenges, Tribal Women's participation in Grass root democracy
- (ii) Forest Rights Act, 2006, Joint Forest Management : Problems and prospects; Food Security Act and Tribals

Text Books:

- S.N.Tripathi, (2007), *Tribal Development: Issues and Policy Options*, Anmol Publishers.
- Govinda Chandra Rath,(ed.) (2008), *Tribal Development in India: The Contemporary Debate*, Sage publications

Reference Books:

- Dr. Taradatt,(2002), *Tribal Development in India* , Gyan Publishing house
- Nupur Tiwari,(2016), *Tribal Self-Governance: PESA and Its Implementation* , Rawat Publications
- Dr. Akula Kishan & Prof. Dr. V.R.C. Krishnaiah (2017), *Forest Rights Act, 2006* , Asia Law House
- L.K.Mahapatra, (1994), *Tribal Development in India: Myth and Reality*, Vikas Publishing House.

DSE Paper – IV: Dissertation/ Research Project (College can give this choice only for students with above 60% aggregate marks)

DISSERTATION / RESEARCH PROJECT

Introduction: The research experience of students is greatly enriched by early exposure to conducting research. There are numerous benefits of undergraduate students who get involved in research. They are better off in understanding published works, determine an area of interest, can discover their passion for research and may start their career as a researcher. Further students will be able to develop ability for scientific inquiry and critical thinking, ability in the knowledge base and communication. This course is included to promote above mentioned abilities among the students.

Learning Objectives:

- To help students to learn how to develop scientific research designs in the study of public administration.
- To guide students to understand the previous research in their field of interest and review them to arrive at a research problem
- To encourage the students to learn ways to describe and evaluate public policy implementation.
- To help students understand the logic of hypothesis testing in both quantitative and qualitative research.
- To make students to learn the methods of writing a research report.

Expected outcomes: Students will be able to

- Independently prepare a research design to carry out a research project
- Review the related research papers to find out a research problem and relevant hypotheses
- Understand the dynamics of citizen – administrative interface and administrative behaviours.
- Learn the use of statistical techniques for interpretation of data.
- Learn the APA style of reporting a research project.

A student is required to carry out a project on an issue of interest to him / her under the guidance and supervision of a teacher. In order to do so s/he must have the knowledge in research methodology and of steps in planning and conducting a research. The supervisors may help the students to go on field study / study tour relevant to their work. Thirty hours of class may be arranged in the routine to help students understand research methodology, and planning, conduction and reporting on the research. An external examiner with the supervisor as the internal examiner will evaluate the research project on the basis of scientific methodology in writing the report, and presentation skill and performance in the viva.

- **Format**

- **Abstract** – 150 words including problem, method and results.
- **Introduction** – Theoretical considerations leading to the logic and rationale for the present research
- **Review**- Explaining current knowledge including substantive findings and theoretical and methodological contributions to the topic, objectives and hypotheses of the present research
- **Method** – Design, Sample, Methods of data collection,, Procedure
- **Results**- Quantitative analysis of group data (Raw data should not be attached in Appendix) Graphical representation of data wherever required. Qualitative analysis wherever done should indicate the method of qualitative analysis.
- **Discussion**
- **References (APA Style) & Appendices**
- Project should be in Soft binding. It should be typed in Times New Roman 14 letter size with 1.5 spacing on one sides of the paper. Total text should not exceed 50 pages (References & Appendices extra).
- Two copies of the project should be submitted to the College.
- ***Project - American Psychological Association (APA) – Publication Manual 2006 to be followed for project writing***

Mark distribution for dissertation / Research project

Identificatio n of problem	Review of Literature	Methodology	Analysis	Findings	Viva-voce	Total
10	10	10	25	20	25	100

Broad areas identified for Project: Rural and urban governance in Odisha, E-governance initiatives in Odisha, Social welfare administration in Odisha, Disaster Management in Odisha, Implementation of ORTPS, 2012, RTE,2009, Food Security Act, 2013, FRA, 2007 and rehabilitation of displaced in Odisha

Generic Elective Paper I

CONCEPTS AND APPROACHES IN PUBLIC ADMINISTRATION

Introduction: The course is designed to provide the students a basic understanding of the principles of public administration. The students will be given exposure to concepts, terminology, principles, and theories that comprise an introductory course in public administration

Learning Objectives:

- To help the students know the sources and processes of development of public administration.
- To help the students develop a scientific temperament in studying and understanding administration of a state.

Expected outcomes: Students will be able to

- Define the term public administration and understand the basic terminology, concepts, and principles of the discipline.
- Gain knowledge of scientific methodology—the various ways in which administrative practices has been evaluated / interpreted.
- Identify and compare the major perspectives in public administration: Recognize how each approach views administration and administrative behaviour.

UNIT 1: Introduction to Public Administration

- (i) Public Administration: Meaning, Is Public Administration a science? Public vs. Private Administration
- (ii) Evolution of the discipline of Public Administration and its Significance, Scope: Managerial and Integral View

UNIT 2: Principles of Organisation

- (i) Hierarchy, Unity of Command, Span of Control, Concept of Line and Staff, Delegation of Authority, Authority and Accountability
- (ii) Co-ordination, Centralisation versus Decentralisation,

UNIT 3: Concepts of Public Administration

- (i) Types of Organization: Formal and informal, Government and Non Government, organizations in organized and unorganized sectors
- (ii) Delegated Legislation- Salient features, causes of its growth, advantages and disadvantages; Administrative Adjudication- Salient features, causes of its growth, advantages and disadvantages

UNIT 4: Methods of studying Public Administration

- (i) Approaches to the Study of Public Administration, Traditional vs. Modern Approach Salient features of Classical Approach, Administrative Management Approach, Human Relations Approach
- (ii) Paradigms of Public Administration: Politico-administrative dichotomy, New Public Administration, New Public Management, Good Governance, New Public Service Approach, Feminist Approach to Public Administration

Practical:

- (i) Developing the structure of a formal organization, preparing the structure of informal organization
- (ii) Observation of the structure a formal organization and preparing a report within 1000 words

Text Books

- Rumki Basu (2004), *Public Administration: Concepts and Theories*, Sterlin Publishers Pvt. Ltd., New Delhi.
- Mohit Bhattacharya (1997), *Restructuring Public Administration*, Jawahar Book Centre, New Delhi.

Reference Books

- Mohit Bhattacharya (2008), *New Horizons of Public Administration*, New Delhi, Jawahar Publishers & Distributors.
- L.D. White (1948), *Introduction to the study of Public Administration*, New Delhi, Macmillan Publication.
- S.P.Naidu (1996), *Public Administration: Concepts and Theories*, New Age International Publications, New Delhi.
- K.K. Ghai (2015), *Public Administration*, Kalyani Publishers, Cuttack, Odisha

Generic Elective Paper II

INDIAN ADMINISTRATION

Introduction: The course is designed to provide the student a basic understanding of the evolution of Indian Administration, various provisions of Indian Constitution and structure and functioning of public institutions in India.

Learning Objectives:

- To help the students to understand the constitutional history of India
- To help the students gather knowledge about the structural and functional dynamics of Indian administration.

Expected outcomes: Students will be able to

- Understand the evolution of Indian Administration in terms of changes and continuities.
- Gain knowledge of the rights and duties of Indian Citizens
- Understand the structural and functional properties of various constitutional offices and public institutions and so on.

UNIT 1: Evolution of Indian administration

- (i) Indian Administration in British Era: Govt. of India Act 1935, Indian Independence Act 1947
- (ii) Preamble, Salient Features of Indian Constitution, Federalism in India

UNIT 2: Rights and Duties of Indian Citizens

- (i) Fundamental Rights (FRs)- its features and limitations
- (ii) Directive Principles of State Policy (DPSP), Distinction between Fundamental Rights and Directive principles of State Policy Fundamental Duties

UNIT 3: Union Government:

- (i) President, Prime Minister, Council of Ministers, Central Secretariat, Cabinet Secretariat Prime Minister's Office (PMO)
- (ii) Parliament: Lok Sabha and Rajya Sabha; Supreme Court, Women's participation in legislative politics.

UNIT 4: Constitutional and Statutory Bodies: Their Composition and Functional Dynamics

- (i) Finance Commission, Election Commission,
- (ii) National Development Council (NDC), Inter-State Council, Planning Commission and NITI

Aayog – Planning Commission- its vital role and significance till its dissolution and Difference between Planning Commission and Niti Aayog.

Practical:

- (i) Designing of a mock Parliament, Functional Design of Lok Sabha and Rajya Sabha
- (ii) Organogram of PMO, Central Secretariat, Cabinet Secretariat

Text Books:

- B.L. Fadia and Kuldeep Fadia, (2014) *Indian Administration* Sahitya Bhawan, Agra
- Bidyut Chakrabarty, Prakash Chand, (2016), “*Indian Administration : Evolution and Practice*”, SAGE Publications, New Delhi

References:

- Kuldeep Mathur, (2018), *Recasting Public Administration in India: Reform, Rhetoric and Neo-liberalism*, Oxford University Press.
- Hoshier Singh and Pankaj Singh (2011), *Indian Administration*, Pearson, Delhi.
- S.R. Maheswari (2011), *Indian Administration*, New Delhi, Orient Longman.
- Pratap Bhanu Mehta & Nirja Gopal Jayal. (2011), *The Oxford Companion to Politics in India*, Oxford University Press, New Delhi.
- Padmalaya Mahapatra, (2013), *Indian Administration: Central – State – District*, Gyanayuga, Bhubaneswar

Generic Elective Paper III

STATE ADMINISTRATION IN INDIA

Introduction: The course is designed to provide the student a basic understanding of State Administration in India, the dynamics of relations between Union and the States.

Learning Objectives:

- To help the students to understand the dynamic relation between centre and state in Indian federation
- To help the students gather knowledge about the structural and functional dynamics of State judicial system

Expected outcomes: Students will be able to

- Understand the functioning of administrative institutions in a state.
- Gain knowledge of the judicial process in Indian States
- Understand the structural and functional dynamics of administrative institutions at district and block level.

UNIT 1: State Administration

- (i) State Executive-Powers and Functions of Governor, Chief Minister and Council of Ministers
- (ii) Structural and functional dynamics of State Vidhan Sabha and Vidhan Parishad, Women’s participation in Legislative politics

UNIT 2: State Judiciary

- (i) Structure, Functions and powers of High Court
- (ii) Composition and functions of subordinate judiciary, Types of subordinate courts

UNIT 3: Relations between the Union and the States

- (i) Centre- State Relations: Administrative, Legislative and Financial Relations
- (ii) Sarkaria Commission Recommendations

UNIT 4: Structure and Functions of Administration in Odisha

- (i) Role and functions of Chief Secretary, Board of Revenue, Revenue Divisional Commissioners
- (ii) District Administration- Composition and Changing Role of Collector Composition and Role of Block Development Officer in Block Administration

Practical:

- (i) Organization of Subordinate Judiciary
- (ii) Organization of Block and District Administration

Text Books:

- B.L. Fadia and Kuldeep Fadia (2014), *Indian Administration*, Sahitya Bhawan, Agra.
- Bidyut Chakrabarty and Prakash Chand (2016), *Indian Administration: Evolution and Practice*, SAGE Publications, New Delhi.

Reference Books

- Hoshiar Singh and Pankaj Singh (2011), *Indian Administration*, Pearson, Delhi.
- S.R. Mahesswari (2011), *Indian Administration*, New Delhi, Orient Longman.
- Pratap Bhanu Mehta & Nirja Gopal Jayal (2011), *The Oxford Companion to Politics in India*, Oxford University Press, New Delhi.
- Padmalaya Mahapatra (2013), *Indian Administration: Central – State – District*, Gyanayuga, Bhubaneswar

Generic Elective Paper IV

SOCIAL WELFARE ADMINISTRATION

Introduction: The course is designed to provide the student a basic understanding of welfare administration in India as welfare is an essential aspect of development administration. It will expose the students to the wider scope of major welfare schemes working in our country. development and development administration.

Learning Objectives:

- To help the students to understand the dynamics of social welfare administration.
- To help the students to gather knowledge about the structural and functional dynamics of institutions engaged in social welfare administration

Expected outcomes: Students will be able to

- Understand the diverse perspectives on development adopted by nations.
- Gain knowledge of the goals and strategies of development adopted by India
- Understand the structural and functional dynamics of administrative institutions engaged in making and implementing development programmes.

UNIT 1: Introduction to social welfare

- (i) Definition of Social Welfare, Diverse perspectives on social welfare, distinction between Social welfare and development Administration
- (ii) Universal Declaration of Human rights as basis of social welfare

UNIT 2: Dynamics of Social Welfare administration in India

- (i) Central Social Welfare Board and State Social Welfare Boards
- (ii) Human Rights Commissions: National-Level and State-Level

UNIT 3: Social Welfare Services in India

- (i) A critical analysis of provisions and implementation of National Health Mission, Right to Education Act, 2009
- (ii) Welfare programmes for women in India-

UNIT 4: Welfare Programmes and Marginalised Groups in India

- (i) Welfare Programme 1 for Scheduled Caste (SC), Scheduled Tribe (ST), and Minorities: National Commission for Scheduled Castes, National Commission for Scheduled tribes
- (ii) Welfare Programmes 2 for Other Backward Class (OBC) and Socially & Educationally Backward Classes (SEBC), National Commission for OBC

Text Books:

- Dr. D.R. Sachdeva (2013), *Social welfare Administration in India*, Kitab Mahal.
- V.A. Pai Panandikar (1974), *Development Administration in India*, Macmillan, New Delhi.

Reference Books

- Jean Dreze (Ed.), (2016), *Social Policy*, New Delhi: Orient BlackSwan
- Kuldeep Mathur, (2015), *Public Policy and Politics in India: How Institutions Matter* (Oxford India Paperbacks)
- Vijay Kumar K.(2012), *Right to Education Act 2009: Its Implementation as to Social Development in India*, Akansha Publishing House, Delhi.
- Navneeta Rath, (2014) *Gender and Society*, Mayur Publications
- S.K. Jena (2003), *Rural Sociology*, Elegant Publications, Bhubaneswar.

PUBLIC ADMINISTRATION Papers for PASS students

Discipline Specific Core – 4 papers & Discipline Specific Elective – 2 papers

Scoring System for Papers with Practical:

Marks per paper - Midterm: 15 marks, Practical: 25 marks, End term: 60 marks, Total: 100 marks
Credit per paper – 6, Teaching hours per paper – 40 hours theory + 20 hours practical

Scoring System for Papers without Practical:

Marks per paper - Midterm: 20 marks, End term: 80 marks, Total: 100 marks
Credit per paper – 6, Teaching hours per paper – 50 hours + 10 hours tutorial

Discipline Specific Core Paper I

CONCEPTS AND APPROACHES IN PUBLIC ADMINISTRATION

Introduction:

The course is designed to provide the students a basic understanding of the principles of public administration. The students will be given exposure to concepts, terminology, principles, and theories that comprise an introductory course in public administration

Learning Objectives:

- To help the students know the sources and processes of development of public administration.
- To help the students develop a scientific temperament in studying and understanding administration of a state.

Expected outcomes: Students will be able to

- Define the term public administration and understand the basic terminology, concepts, and principles of the discipline.
- Gain knowledge of scientific methodology—the various ways in which administrative practices has been evaluated / interpreted.
- Identify and compare the major perspectives in public administration: Recognize how each approach views administration and administrative behaviour.

UNIT 1: Introducing Public Administration

- (i) Public Administration: Meaning, Is Public Administration a science? Public vs. Private Administration
- (ii) Evolution of the discipline of Public Administration and its Significance, Scope: Managerial and Integral View

UNIT 2: Principles of Organisation

- (i) Hierarchy, Unity of Command, Span of Control, Concept of Line and Staff, Delegation of Authority, Authority and Accountability
- (ii) Co-ordination, Centralisation versus Decentralisation,

UNIT 3: Concepts of Public Administration

- (i) Types of Organization: Formal and informal, Government and Non Government, organizations in organized and unorganized sectors
- (ii) Delegated Legislation- Salient features, causes of its growth, advantages and disadvantages; Administrative Adjudication- Salient features, causes of its growth, advantages and disadvantages

UNIT 4: Methods of studying Public Administration

- (i) Approaches to the Study of Public Administration, Traditional vs. Modern Approach Salient features of Classical Approach, Administrative Management Approach, Human Relations Approach
- (ii) Paradigms of Public Administration: Politico-administrative dichotomy, New Public Administration, New Public Management, Good Governance, New Public Service Approach, Feminist Approach to Public Administration

Practical:

- (i) Developing the structure of a formal organization, preparing the structure of informal organization
- (ii) Observation of the structure of a formal organization and preparing a report within 1000 words

Text Books

- Rumki Basu (2004), *Public Administration: Concepts and Theories*, Sterling Publishers Pvt. Ltd., New Delhi
- Mohit Bhattacharya (1997) *Restructuring Public Administration*, Jawahar Book Centre, New Delhi.

Reference Books

- Bidyut Chakravorty (2013), *Public Administration*”, Sage, New Delhi.
- Amita Singh 2002, “*Public Administration: Roots and Wings*” Galgotia Publishers, New Delhi
- L.D. White (1948) *Introduction to the study of Public Administration*, New Delhi, Macmillan Publication.
- S.P.Naidu (1996), *Public Administration: Concepts and Theories*, New Age International Publications, New Delhi.
- K.K. Ghai (2015), *Public Administration*, Kalyani Publishers, Cuttack, Odisha.

Discipline Specific Core Paper II

INDIAN ADMINISTRATION

Introduction: The course is designed to provide the student a basic understanding of the evolution of Indian Administration, various provisions of Indian Constitution and structure and functioning of public institutions in India.

Learning Objectives:

- To help the students to understand the constitutional history of India
- To help the students gather knowledge about the structural and functional dynamics of Indian administration.

Expected outcomes: Students will be able to

- Understand the evolution of Indian Administration in terms of changes and continuities.
- Gain knowledge of the rights and duties of Indian Citizens
- Understand the structural and functional properties of various constitutional offices and public institutions and so on.

UNIT 1: Evolution of Indian administration

- (i) Indian Administration in British Era: Govt. of India Act 1935, Indian Independence Act 1947
- (ii) Preamble, Salient Features of Indian Constitution, Federalism in India

UNIT 2: Rights and Duties of Indian Citizens

- (i) Fundamental Rights (FRs)- its features and limitations
- (ii) Directive Principles of State Policy (DPSP), Distinction between Fundamental Rights and Directive principles of State Policy Fundamental Duties

UNIT 3: Union Government:

- (i) President, Prime Minister, Council of Ministers, Central Secretariat, Cabinet Secretariat Prime Minister's Office (PMO)
- (ii) Parliament: Lok Sabha and Rajya Sabha; Supreme Court, Women's participation in legislative politics

UNIT 4: Constitutional and Statutory Bodies: Their Composition and Functional Dynamics

- (i) Finance Commission, Election Commission,
- (ii) National Development Council (NDC), Inter-State Council, Planning Commission and NITI Aayog – Planning Commission- its vital role and significance till its dissolution and Difference between Planning Commission and Niti Aayog.

Practical:

- (i) Designing of a mock Parliament, Functional Design of Lok Sabha and Rajya Sabha
- (ii) Organogram of PMO, Central Secretariat, Cabinet Secretariat

Text Books:

- B.L. Fadia and Kuldeep Fadia, (2014) "*Indian Administration*" Sahitya Bhawan, Agra
- Bidyut Chakrabarty, Prakash Chand, (2016), "*Indian Administration : Evolution and Practice*", SAGE Publications, New Delhi

Reference Books

- Amita Singh, (2005), *Administration Reforms*, Sage Publications, New Delhi
- Kuldeep Mathur, (2015), *Government to Governance*, National Book Trust
- Hoshier Singh and Pankaj Singh (2011), *Indian Administration*, Pearson, Delhi.
- S.R. Maheswari (2011), *Indian Administration*, New Delhi, Orient Longman.
- Pratap Bhanu Mehta & Nirja Gopal Jayal (2011), *The Oxford Companion to Politics in India*, Oxford University Press, New Delhi.
- Padmalaya Mahapatra, (2013), "*Indian Administration: Central – State – District*", Gyanayuga, Bhubaneswar

Discipline Specific Core Paper III

COMPARATIVE PUBLIC ADMINISTRATION

Introduction: The course is designed to provide the students a basic understanding of the comparative perspectives in public administration. The students will be given exposure to concepts, terminology, and theories that comprise an introductory course in comparative public administration

Learning Objectives:

- To help the students know the various techniques of public administration in major democracies in the world

- To help the students develop a scientific understanding of operation of various organ of government in different countries.

Expected outcomes: Students will be able to

- Define the term comparative public administration and understand the basic terminology, concepts, and paradigms of the discipline.
- Gain knowledge of select world constitutions..
- Compare the major administrative systems.
- Gather knowledge on various democratic views administration and administrative behaviour.

UNIT 1: Introduction to comparative public administration

- Comparative Public Administration: Meaning, Significance and Evolution
- Fred Riggs: Models of Comparative Public Administration

UNIT 2: Comparative perspective of major democracies

- Concept of Democracy: Meaning, Significance and Types
- Comparing the democratic political system of India, U.K., U.S.A. and Switzerland

UNIT 3: Executive systems of the World

- Salient Features of the Democratic Constitutions of U.K. and U.S.A.
- Structural and Functional dynamics Executive Systems of U.K. – Crown. Prime Minister; President of US

UNIT 4: Comparative perspective of Legislative and Judicial Systems

- Structure and Functional dynamic of British Parliament, structure and Functions of U.S.A. congress
- Comparing British Judiciary and American Judiciary

Text Books:

- Vishnoo Bhagwan, Vidya Bhushan (1998), *World Constitutions*, Sterling Publisher Private Limited.
- K.K. Ghai (2013), *Major Governments, Political System of U.K., USA, Switzerland, France and China*.

Reference Book:

- Ferrel Hardy, (2001), *Public Administration: A Comparative Perspective*, Marcel Dekker, USA
- Robert L. Maddex (1995), *Constitutions of the World*, Cq Press, 1995.
- U.N. Gupta (2009), *Select World Constitutions*, Atlantic Publishers & Distributors, New Delhi.
- Ramesh K. Arora (1998), *Comparative Public Administration*, Associated Publishing House.

Discipline Specific Core Paper IV

DEVELOPMENT ADMINISTRATION

Introduction: The course is designed to provide the student a basic understanding of development and development administration. It initiates the discussion on changing role of Non-Governmental Organizations and bureaucracy in administration.

Learning Objectives:

- To help the students understand the dynamics of development administration.
- To help the students gather knowledge about the structural and functional dynamics of institutions engaged in development administration.

Expected outcomes: Students will be able to

- Understand the diverse perspectives on development adopted by nations.
- Gain knowledge of the goals and strategies of development adopted by India.
- Understand the structural and functional dynamics of administrative institutions engaged in making and implementing development programmes.

UNIT 1: Introduction to Development Administration

- (i) Defining development administration, evolution of the concept, Difference between Development administration and administrative development.
- (ii) Features of development administration, Distinction between development administration and traditional administration, Need and Scope of Development Administration.

UNIT 2: Dynamics of Development

- (i) Dimensions of Development, Problems of Development.
- (ii) Features of Under Developed, Developing and Developed Countries, Administrative Capability for development.

UNIT 3: Development Planning

- (i) Meaning and nature of development planning, Mixed Economy Model.
- (ii) Planning Machinery in India: State Planning Board, District Planning Committee in India and NITI Aayog.

UNIT 4: Mechanisms of Development Administration

- (i) Role of Non-Governmental Organizations, Community Based Organisations (CBOs), Self Help Groups and Cooperatives in Rural Development, Women's participation in development administration.
- (ii) Role of Bureaucracy in development, People's Participation in development.

Text Books:

- R.K. Saprú (2014), *Development Administration*, Sterling Publishers, New Delhi.
- Mohit Bhattacharya (2011), *Social Theory and Development Administration*, Jawahar Publishers and Distributors, New Delhi.

Reference Books

- V.A. Pai Panandikar (ed) (1974), *Development Administration in India*, Macmillan, New Delhi.
- Rayanimana Pattanayak (1997), *Dynamics of Development Administration*, Anmol Publications Pvt. Ltd. New Delhi.
- Edward W. Weidner ,Ed. (1970),*Development Administration in Asia*.Durham, N.C.: Duke University Press,
- Kuldeep Mathur, (1996), *Development Policy and Administration: Readings in Indian Government and Politics*, Sage Publication

Discipline Specific Elective Paper I

PUBLIC PERSONNEL ADMINISTRATION

Introduction: The course provides an overview of public personnel administration in India. It focuses on topics such as civil service in developing countries, bureaucracy, recruitment, training and welfare of employees.

Learning Objectives:

- To help students able to understand the structure, functions, and designs of bureaucracy and civil service in India
- To make students understand the processes of recruitment and training for civil servants in the country
- To help students to gather knowledge with regard to the rights, duties and privileges of the civil servants.

Expected outcomes: Students will be able to

- Understand different concepts and dynamics related to bureaucracy and public personnel management.
- Identify the avenues for training for professional development of employees.
- Understand significance of civil service in developing societies.

UNIT 1: Introduction to Public Personnel Administration

- (i) Meaning of public personnel administration and its nature and scope
- (ii) Civil Service: Meaning, Features and Role in Developing Societies

UNIT 2: Bureaucracy

- (i) Definition of Bureaucracy, Types of Bureaucracy and Position Classification
- (ii) Recruitment: Meaning, Direct and indirect recruitment-its advantages and disadvantages, Composition and functions of Union Public Service Commission and State Public Service Commission, Methods of recruiting civil servants in India

UNIT 3: Dynamics of Personnel Development

- (i) Training: Meaning, Role and Objectives, Types of training, Techniques of training and names of premier Training Institutions in India
- (ii) Promotion: Meaning, Elements and Types, Principles of a sound promotion system and Promotion in India

UNIT 4: Personnel Welfare

- (i) Employees' Welfare: Pay and Service Conditions; Allowances
- (ii) Leave, Retirement Benefits and Rights and privileges of Civil Servants, Accountability of civil servants in India

Text Books:

- Rajesh K. Jha (ed) (2012), *Public Personnel Administration*, Pearson, New Delhi.
- Bata K. De (1991), *Personnel Administration in India: Retrospective Issues, Prospective Thought*, Uppal publications, New Delhi.

Reference Books

- W. Procter Arthur (2017), *Principles of Public Personnel Administration*, Forgotten Books, London.

- R.D Aggarwal (2015), *Dynamics of Personnel Management in India*, Tata McGraw Hill Publishing Company, New Delhi.
- S.L. Goel (1984), *Public Personnel Administration*, Sterling, New Delhi.
- Jack Robin, Thomas Vocina, W Bartley Hildreth & Gerald J. Miller (1995), *Handbook of Public Personnel Administration*, Marcel Dekker Inc., New York.

Discipline Specific Elective Paper II

FINANCIAL ADMINISTRATION

Introduction: This course has been designed to enable the students to have basic knowledge of the Financial system of India. It focuses on topics, concepts and methods related to financial management, audit and budget.

Learning objectives:

- To help students to learn how finance management is conducted in the country.
- To guide students to understand the process of budget-making in India
- To encourage the students to learn ways to examine and evaluate financial propriety of public funds used in implementation of public policy

Expected outcomes: The students will be able to

- Understand the dynamics of budget preparation in India
- Gain knowledge about how audit is conducted in the
- Understand the significant aspects of monetary policy.

UNIT 1: Dynamics of Financial Administration

- (i) Different aspects of Financial Administration, meaning and forms of accounting, Principles of accounting in India, power and functions of Controller General of Accounts (CGA) in India
- (ii) Auditing: definition and types, nature of auditing in India, power and functions of Comptroller and Auditor General of India (CAGI)

UNIT 2: Parliamentary control over public expenditure

- (i) Budget: Concept and Principles
- (ii) Budget System in India, Budgetary Process in India: Preparation, Passing and Execution.
- (iii) Estimates Committee, Public Accounts Committee and Committee on Public Sector Undertakings

UNIT 3: Financial relationship between centre and states

- (i) Centre - State Financial Relationship, Functions of Reserve Bank of India
- (ii) Finance Ministry: History, Composition and Functions

UNIT 4: International Financial Institutions

- (i) International Monetary Fund (IMF) and World Bank (WB): Objectives, Composition and Functions.
- (ii) World Trade Organisation (WTO): Objectives, Composition and Functions.

Text Books:

- S.L. Goel, (1999), *Financial Administration and Management*, New Delhi, Sterling Publishers Private Limited
- D.M. Mithani, (2018), *International Economics*, Himalaya Publishing House

Reference Books

- Sahib Singh & Swinder Singh, *Public Personnel and Financial Administration*, New Academic Publishing Co., Jalandhar.
- Sanjeev Kumar Mahajan (2014), *Financial Administration in India*, PHI Learning.
- M.J.K. Thavaraj (2014), *Financial Administration in India*, Sultan Chand & Sons, New Delhi.

Optional SEC II Paper
Total Marks- 100, Credit - 04 & Teaching hours – 40 hours

VULNERABILITY AND PUBLIC POLICY

Introduction: The course is designed to help the students understand the making of public policy and nature of poverty in India. It will also give them a broad overview of poverty alleviation programmes in the country.

Learning Objectives:

- To help the students to be aware of the process of public policy and their role in it.
- To help them understand the nature of poverty, the concepts like poverty line.
- To help them understand the importance of implementation of developmental programmes.

Expected outcomes: Students will be able to

- The students will develop confidence by mastering the developmental programmes undertaken in their state.
- The students will be able to develop employability by building a strong base for general knowledge.

UNIT 1: Understanding poverty and Vulnerability

- (i) Poverty: Meaning, Nature and Causes
- (ii) Debates on Poverty Line in India, BPL and APL

UNIT 2: Making of Public policy

- (i) Policy and Public Policy; Meaning, Nature and Scope of Public Policy
- (ii) Formulation of Public Policy, Public Policy Process in India

UNIT 3: Poverty alleviation

- (i) Poverty Alleviation: Meaning and Significance
- (ii) Poverty Alleviation Strategies in India, Poverty Alleviation Programmes in India - Public Distribution System and Food Security Act, Pradhan Mantri Gramin Awaas Yojana (PMGAY) and National Rural Employment Guarantee Act (NREGA)

UNIT 4: Poverty in Odisha

- (i) Nature of Poverty in Odisha - Socio-Economic Condition in KBK Region
- (ii) Poverty Alleviation Programmes in Odisha- Role of State and Civil Society

Text Books:

- Jean Dreze (Ed.), (2016), *Social Policy*, New Delhi: Orient BlackSwan
- Bidyut Chakrabarty and Prakash Chand (2016), *Public Policy: Concept, Theory and Practice*, SAGE Publications, New Delhi.

Suggested Readings:

- Tanuja Mohapatra (2008), *Rural Sociology*, Kalyani Publishers, Delhi.
- Aaron Wildavsky (1980), *The Art and craft of Policy Analysis*, London, Macmillan.
- R.K. Sapru, (2012) "*Public Policy: Foundation, Implementation and evaluation*", Sterling, New Delhi
- Rajesh Chakrabarti, Kaushiki Sanyal (2016), *Public Policy in India*, Oxford University Press, New Delhi.

Faculty Training Component of the Public Administration Syllabus (21 days)

Themes for faculty training:

Recent developments in Public Administration

- Progress of law and governance into transdisciplinarity
- Study of hierarchy, neutrality, impersonality and proper channel
- How organizational conflict can be constructive--- Mary parker Follett, F.W.Riggs, Hoods and Hoods, O’Leary and Fredrickson.
- Management by Objective- Peter Drucker, Hoods and Jackson, Rosemary O’Leary and Douglas North

Developments in Indian Administration

- Planning Commission and NITI Aayog – Planning Commission- its vital role and significance till its dissolution and Difference between Planning Commission and Niti Aayog.
- Parliamentary conventions and practices, parliamentary privileges and immunities
- Social welfare services in India: welfare programmes for SC,ST,OBC/SEBC and women, differently abled

Recent Advances in methods of Research

- Qualitative research design
- How to frame the Schedule
- Key informant interview
- Focus Group Discussion
- New forms of sampling
- Use of basic computer knowledge for research
- Ethnography

Governance and Outreach designs

- Right to information Act 2005,
- Odisha Right To Public Service Act 2012
- Right to Education Act,2009
- Food Security Act,2013
- Land Acquisition Resettlement and Rehabilitation Act,2015
- Forest Rights Act, 2007
- E-Governance initiatives in India, particularly in Odisha-core E-governance projects

Challenges to Administration

- Governance of SMART city
- Developing gender-sensitive administration
- Preparedness for disaster
- Institutionalizing community resilience practices
- Disaster mitigation measures: Role of Odisha State Disaster Management Authority

MASTER OF BUSINESS ADMINISTRATION (MBA)

**SYLLABUS
(Effective from Academic Session 2024-25)**



**MAHARAJA PURNA CHANDRA (AUTONOMOUS) COLLEGE
TAKATHPUR, BARIPADA, ODISHA**

**Maharaja Purna Chandra Autonomous College,
Takatpur, Baripada-757003**

SYLLABUS FOR
MBAPROGRAMME

(Effective from academic session 2021-2022)

Semester-I									
Code	Subject	L	T	P	Credit	Final exam	Internal exam	Practical exam	Total
BA-1.1	Organization structure and Management	3	0	0	3	80	20		100
BA-1.2	Quantitative Methods for Management-I	3	0	0	3	80	20		100
BA-1.3	Organizational Behavior-I	3	0	0	3	80	20		100
BA-1.4	Managerial Economics	3	0	0	3	80	20		100
BA-1.5	Basic Financial Accounting	3	0	0	3	80	20		100
BA-1.6	Marketing Management-I	3	0	0	3	80	20		100
BA-1.7	Financial Management-I	3	0	0	3	80	20		100
BA-1.8	Computer for Management	0	0	4	4	100		100	100
	Total	21	0	4	25	660	140		800

[L= Lecture, T=Tutorial, P= Practical] Each paper requires 40 lecture hours.

Semester-II									
Code	Subject	L	T	P	Credit	Final exam	Internal exam	Practical exam	Total
BA-2.1	Cost and management Accounting (Supportive – 1)	3	0	0	3	80	20	-	100
BA-2.2	Quantitative Methods for Management-II	3	0	0	3	80	20	-	100
BA-2.3	Organizational Behavior	3	0	0	3	80	20	-	100
BA-2.4	Management Information system	3	0	0	3	80	20	-	100
BA-2.5	Human Resource Management - I	3	0	0	3	80	20	-	100
BA-2.6	Marketing Management-II	3	0	0	3	80	20	-	100
BA-2.7	Financial Management-II	3	0	0	3	80	20	-	100
BA-2.8	Summer Project	0	0	4	4	100	-	100	100
	Total	21	0	4	25	660	140		800

Semester-III								
Code	Subject	L	T	P	Credit	Final exam	Internal exam	Total
BA-3.1	Business Communication (Supportive-2)	4	0	0	4	80	20	100
BA-3.2	Human Resource Management-II	3	0	0	3	80	20	100
BA-3.3	Production and Operation Management	3	0	0	3	80	20	100
BA-3.4	Business Law	3	0	0	3	80	20	100
Elective Marketing Management Group								
BA-3.5	Product and Service Marketing	3	0	0	3	80	20	100
BA-3.6	Consumer Behaviour and Marketing Research	3	0	0	3	80	20	100
BA-3.7	Advertising and Public Relation	3	0	0	3	80	20	100
Elective Finance Management Group								
BA-3.8	Security Analysis and Portfolio Management	3	0	0	3	80	20	100
BA-3.9	Management of Financial Services	3	0	0	3	80	20	100
BA-3.10	Management Control System	3	0	0	3	80	20	100
Elective Human Resource Management Group								
BA-3.11	Talent Management	3	0	0	3	80	20	100
BA-3.12	Compensation Management	3	0	0	3	80	20	100
BA-3.13	Employee Relations and Labour Legislations	3	0	0	3	80	20	100
	Total	25	0	0	25	640	160	800

Semester-IV								
Code	Subject	L	T	P	Credit	Final exam	Internal exam	Total
BA-4.1	Strategic Management	3	0	0	3	80	20	100
BA-4.2	Business ethics and Corporate Governance	3	0	0	3	80	20	100
BA-4.3	Entrepreneurship Development	3	0	0	3	80	20	100
BA-4.4	Dissertation and Viva- Voice	0	0	4	4	100	-	100
Elective Marketing Management Group								
BA-4.5	Sales and Distribution Management	3	0	0	3	80	20	100
BA-4.6	International marketing	3	0	0	3	80	20	100
BA-4.7	Industrial Marketing	3	0	0	3	80	20	100
Elective Finance Management Group								
BA-4.8	Working Capital Management	3	0	0	3	80	20	100
BA-4.9	International Finance	3	0	0	3	80	20	100
BA-4.10	Corporate Tax Planning and Management	3	0	0	3	80	20	100
Elective Human Resource Management Group								
BA-4.11	Human Resource Development	3	0	0	3	80	20	100
BA-4.12	Employee Compensation and Society Security	3	0	0	3	80	20	100
BA-4.13	Organizational Change and Development	3	0	0	3	80	20	100
	Total	25	0	4	25	640	160	800

Semester-I	25	Credits	800 marks
Semester-II	25	Credits	800 marks
Semester-III	25	Credits	800 marks
Semester-IV	25	Credits	800 marks
Total	100	Credits	3200 marks

During Semester-III and Semester-IV each student has to take dual specialization out of three special/elective groups. Again, from special/elective group, the student has to opt two papers out of three papers.

MBA PROGRAM OUTCOME:

The MBA program is a student centric program with an objective of developing a career in diverse sectors of the industry, developmental projects and academic. The MBA program not only facilitates learning in theory and practice of different functional areas of management but also equips the students with an integrated approach to various functions of management. The curriculum is designed in a way that Institutes, Faculty and Students will shift their focus from traditional methodology which excessive focuses on industry towards a broad-based learning, encompassing the end-to-end processes involved in developing entrepreneurial skills looking at needs and demands of the society.

The curriculum will allow students to a confidence level where they can become masters of their own and wish to start up their new ventures and create further growth opportunities. At the end of the curriculum students should able to start their own venture and control all the managerial functions. Apart from this student should be able to handle the managerial responsibilities in the corporate world and excel them in academicalso.

MBA Program Specific Outcomes

- 1) To imbibe the students with requisite domain knowledge, skills & right attitude necessary to provide effective leadership in a competitive environment.
- 2) To develop competent management professionals with strong ethical values, capable of assuming a pivotal role in various sectors of the Indian Economy&Society.
- 3) To inculcate proactive thinking to ensure effective performance in the dynamic socioeconomic and business ecosystem.
- 4) To harness entrepreneurial approach and skillsets aligned with the national priorities.
- 5) To understand the ethical implication of business decision making and recognize ethical dilemmas.

MBA programme will definitely help the students to adopt the required skillsets to perform efficiently and effectively in today's competitive environment.

SEMESTER-I

Paper Code-BA -1.1

ORGANISATION STRUCTURE AND MANAGEMENT

COURSE OUTCOMES

After completion of this course the students will be able to understand various concepts of management, the contemporary management practices and enable the students to appreciate the emerging ideas and practices in the field of management.

UNIT-I

Basic concept relating to management: managerial roles and skills, social and ethical responsibilities of management, planning- Nature, Scope, steps and plans, decision making- types of decision: decision making under containing risk and uncertainty steps in rational decision making, bounded rationality, Group decisionmaking.

UNIT-II

Evolution of management thought- Classical approaches, Neo-Classical approaches, modern approaches.

UNIT-III

Organization- Authority Delegation and Decentralization, Departmentation, various forms of Organization Design, Organization change- forces for change, Planned Vs Reactive change.

UNIT-IV

Organization conflict- process of organization conflict, individual, group and organizational conflict, resolving and eliminating conflict, nature of power and leadership, communication- Meaning, Process types and Barriers to communication Management in 21st century.

UNIT-V

Case Analysis relating to subject

Reference Book:

1. Griffin, Ricky W- Management, AITBS, NewDelhi.
2. Stonner& Freeman- Management, PHI, NewDelhi.
3. Kneit, Robert- Management, AITBS, New Delhi.aa

SEMESTER-I
Paper Code- BA - 1.2

QUANTITATIVE METHODS FOR MANAGEMENT-I

COURSE OUTCOMES

Students will understand the role of quantitative techniques in managerial decision making and applications of various quantitative techniques in managerial setting. This course also makes students familiar with the various quantitative techniques used for making the business analysis and decision making.

UNIT-I:

Data collection and measures of central tendency and dispersion: Basic concepts: population and sample, parameter and statistics; Data collection: Primary and secondary data, methods of collection of primary data: Measures of central tendency: Mean, median, mode their relative merits and demerits; Matrix analysis

UNIT-II:

Statistical methods for management of dispersion, Correlation Analysis; Scatter diagram, simple correlation coefficient –Karl Pearson's correlation coefficient and its properties, probable error of correlation coefficient, Spearman's rank correlation coefficient, partial and multiple correlation.

UNIT-III:

Meaning of research, objective, types and approaches, Research problem, selection and defining the problem, technique involved in defining a problem meaning need & types of research design.

UNIT-IV:

Sampling design: Implementations of a sample design, steps in sample design, characteristics and types of sample design, Report writing: purpose, contents, technique of writing report.

UNIT-V:

Case Analysis relating to subject

Reference Book:

1. C.R. Kothari, Research Methodology, New Age International Publishers.
2. Wilkinson & Bhandarkar, Methodology & Techniques of a social research, Himalaya Publishing House.
3. S.R. Bapayee, Method Of Social Survey and Research, KitabGhar.
4. N. RAGHAVACHARI, mathematics for management.
5. R.L. Levin, Statistics of Management.

SEMESTER-I
Paper Code- BA - 1.3

ORGANIZATION OF BEHAVIOUR - I

COURSE OUTCOMES

At the end students will be able to relate the different aspects of the human behavior to the individual, group and organizational perspectives of the workplace, apply the OB frameworks and tools effectively to analyze the different approaches of various Organizational situations and to modify their own beliefs, assumptions, and behaviors with respect to how individuals, groups and organizations act in order to increase their own effectiveness.

UNIT-I:

Study of organization of Behavior: Focus and purpose, nature, scope and development, OB models and models of man research in OB.

UNIT-II:

Personality- Determinants of personality, Theories of personality, Individual differences, matching personality and jobs, personality and organization perception, meaning, perceptual process, perception and OB.

UNIT-III:

Learning and Behavior Modification: Learning process, Theories of learning and OB, Behavior modification, Attitudes- Characteristics and components of attitude, attitude and behavior, attitude formation, Measurement of attitude, values and productivity cognitive dissonance theory, attitude, values and job satisfaction.

UNIT-IV:

Motivation- Nature of motivation, motivational process theories of motivation, Need hierarchy model, theory X and theory Y, Two factor theory, E.R.G. Model, achievement theory and power motivation Expectancy- theory equity theory, theory Z, Contingency model.

UNIT-V: Case Analysis relating to subject

Reference Book:

1. Stephen P. Robbins- Organizational Behaviour, PHI.
2. L.M. Prasad- Organizational Behaviour, Sultan Chand & Sons.
3. Rao & Narayana- Organizational Behaviour, Konark Publishing House.
4. R. Aswathappa- Organizational Behaviour, Himalaya publishing House.
5. M.N. Rudrabasvaraj- Human Factor in Management.
6. F. Luthans- Organizational Behaviour.

SEMESTER-I
Paper Code-BA - 1.4

MANAGERIAL ECONOMICS

COURSE OUTCOMES

After completion of this course the students will familiarize themselves with the concepts and tools of managerial Economics as applicable to decisions making in contemporary business environment.

UNIT-I

Marginal analysis, optimization, Theory of demand – demand functions. Indifference curve, properties, consumer's equalization, Income and substitution effects, revealed preference approach and demand forecasting.

UNIT-II

Returns to scale, cost curves, break even analysis, Theory of firm, profit maximization, sales maximization, and organizational slack. Ownership and control, marketing structure – perfect competition, monopoly, oligopoly.

UNIT-III:

Macroeconomics aggregates and concepts GNP & GDP, aggregate consumption, gross domestic capital formation WPI, CPI.

UNIT-IV:

Inflation, Employment, Balance of payments, Money supply and monetary policy, Fiscal impact and investment, Synthesis of monetary and real factors.

UNIT-V:

Case Analysis relating to subject

Reference Book:

1. Brigham, E.E. Paper, J.L.- Management Economics, Druden Press.
2. Ferguson C.T. &JoarGouid- Micro Economics Theory.
3. Gupta G.S- ManagementEconomics.
4. Mote, Paul & Gupta- ManagementEconomics.

SEMESTER-I

Paper Code- BA - 1.5

BASIC FINANCIAL ACCOUNTING

COURSE OUTCOMES

After completion of this course the students will gain brief understanding on accounting concepts, accounting standards and financial statements. Also develop their skills on preparation, analysis of financial statements and other related matters.

UNIT-I

Accounting Concepts, Conventions, Accounting Standards, Financial Accounting: Theoretical Background, Generally Accepted Accounting Principles (GAAPs), International Financial Reporting Standards (IFRS), Users of Accounting Information

UNIT-II

Final Accounts of Companies- Trial Balance, Trading Accounts, Statement of Profit and Loss Accounts, Balance Sheet, Depreciation- Meaning, Purpose, Factors and Various Methods Of Depreciation

UNIT-III

Shares Accounting For Allotment And Forfeiture, Debenture- Issue And Redemption. Cash Flow Analysis-Meaning and Preparation Cash Flow Statements

UNIT-IV

Financial Statement Analysis: Trend Analysis, Ratio Analysis Assessment Of Financial Health. Accounting In Computerized Environment

UNIT-V

CASE Analysis relating to subject

Reference Book:

1. Narayanswamy, R.(2014). Financial Accounting- A managerial Perspective (5thed.). PHI Learning
2. Rajan, M., Horngren, C. T., and Datar, S.M. (2011). Cost Accounting- A Managerial Emphasis (14thed.) Pearson Education.
3. Ramachandran, N., and Kakani, R.K. (2005). Financial Accounting for Management. Tata McGrawHill.
4. Banerjee, B. (2009). Cost Accounting Theory and Practice (12thed.). PHILearning

SEMESTER-I
Paper Code-BA -1.6

MARKETING MANAGEMENT - I

COURSE OUTCOMES

This course will sensitize the students to the dynamic nature of Marketing Management and good understanding on the concept of Marketing Mix and Consumer Behavior as a framework for Marketing Decision making.

UNIT-I:

Marketing concept – Nature, Scope and importance of marketing, Marketing process, Marketing Environment.

UNIT-II:

Consumer Behavior- Meaning, Factors influencing Consumer Behaviour, The consumer decision- making process, marketing segmentation, targeting and positioning.

UNIT-III:

Marketing Mix: product life cycle and PLC Strategy, Product Mix decisions, Product Line Decisions, Branding and packaging decisions.

UNIT-IV:

Price: pricing objective and price determination, Basic methods of setting price , pricing policies and strategies.

UNIT-V:

Case Analysis related to the Subjects

References Books:-

5. William J. / Stanton- Fundamentals of Marketing.
6. Philip Kotler- Principles of Marketing.
7. Raja Saxena- Marketing Management.
8. V.S Ramaswamy & Snamakumari- Marketing Management.
9. Sharad Kumar- A Text book of Marketing management.

SEMESTER-I
Paper Code- BA - 1.7

FINANCIAL MANAGEMENT: - I

COURSE OUTCOMES

After completion this course, students will enable to understand the concepts and foundations of managing finance in business enterprises and learn to identify financial challenges, tools and techniques for decisions with glimpse of practices.

UNIT-I:

Financial Management: Concepts finance related Discipline, Scope of Finance, Finance Function, Financial Managerial Role and Profit Maximization, Wealthmaximization.

UNIT-II:

Financial statement analysis- Ratio analysis- Leverage operating and financial.

UNIT-III:

Concept and Relevance of Time Value of Money, Capital Budgeting, Techniques, Evaluation, discounted cash flow techniques, cashes of capital budgeting decision.

UNIT-IV:

Cost of Capital: concept of cost of capital, factor affecting cost of capital, measurement of cost of capital of individual components, weighted average cost of capital.

UNIT-V:

Case Analysis related to the Subjects

References Books: -

1. James C. Veomonence- Finance Management &Policy.
2. Weston & Brigham- ManagementFinance.
3. L.M. pandey- FinancialManagement.
4. R.P. Rastogi- Financial Management Theory, Concept &Problems.

SEMESTER-I
Paper Code- BA -1.8

COMPUTER FOR MANAGEMENT

After completion of this course students will gain fundamental knowledge on the basic aspects of IT and their applications in business.

UNIT-I:

Fundamental Concept of computer and application Area, Classification of computer system, Peripheral devices, data representation and binary numbers, computer software.

UNIT-II:

Programming concept- Flow Chart, Algorithm, Decision Tables, Programming Languages and packages, Batch Programming, Multi Programming, Parallel Processing.

UNIT-III:

ALU, Types of Memories, Selection of memory system, Internal Organization of ALU, Role of control unit register, Boolean algebra and binary operations, Data Structure, Files and Access Mechanism.

UNIT-IV:

Structure Computer Organization, High Level Language, Assembly language, Assembler, Operating System and its role, Virus & Anti-virus and Its applications.

UNIT-V:

Practical 50 Marks.

Windows, MS Word, MS Excel, Accounting Packages, MS- Power Point, MS- DOS- Operating System.

References Books:-

1. R.K. Sinha- Computer Fundamentals.
2. V. Rajaraman- Fundamental of Computers.
3. A.S. Tanebaum- Structure Computer Organization.

SEMESTER- II
Paper Code- BA-2.1

COST & MANAGEMENT ACCOUNTING
(Supportive - I)

COURSE OUTCOMES

At the end of this course, a student would learn the concepts of costs, classifications of costs, costing methods and techniques for managerial decisions and would get a glimpse of practices.

UNIT-I:

Cost Analysis, Cost concept and classification, Elements of Cost, Preparation of cost sheet allotment and absorption of Overhead.

UNIT-II:

Process costing, Job Costing, Contract Costing and Application of Process costing for joint products and by products.

UNIT-III:

Managerial Costing and breakeven analysis- Application in Decisions Making, Differential Costing.

UNIT-IV:

Standard costing, Budgeting, Budgetary control.

UNIT-V:

Case Analysis relating to subject

References Books: -

1. Sharma & Gupta- Management Accounting, KalayaniPublishers.
2. S.N. Maheswari- Principle of Management Accounting, SultanChand.
3. Jain & Narang- Cost Accounting, Kalayanipublisher.
4. R.N. Anthony- Management Accounting, Richard D.Irwin.
5. N.L. Hingorani- Management Accounting, Sultan Chand & Sons.
6. Homgreen- Cost Accounting, Prentice- Hall12.

SEMESTER- II
Paper Code- BA - 2.2

QUANTITATIVE METHODS FOR MANAGEMENT-II

COURSE OUTCOMES

At the end course students will acquaint with the important quantitative techniques which play an important role in the decision-making process and enable the students to arrive at optimal or near-optimal solutions to complex decision-making problems.

UNIT-I:

Introduction to LPP, Formulation of LPP, Graphical Methods and Simplex Method, Management problems and case handling.

UNIT-II:

Linear Programming, Transportation problem, Routing and Assignment models, Game Theory.

UNIT-III:

Sequencing Dynamic Programming, Queuing System, PERT/ CPM.

UNIT-IV:

Multi- Objective Decision- making, non-interacting and interactive Decision- making, Recommended.

UNIT-V:

Case Analysis relating to subject

References Books: -

1. Wagner- principles of operatingResearch.
2. K. Swarup, P.K. Gupta, Manmohan- OperationResearch.
3. Keeney and Raiffa- Decisions with multiple objectives, Wiley, Newwork.
4. H.J. Zimmerman- Fuzzy set theory and itsapplication.

SEMESTER- II
Paper Code- BA - 2.3

ORGANIZATION OF BEHAVIOUR-II

COURSE OUTCOMES

Students will be able to apply the frameworks & tools effectively to analyze & approach various Organizational situations. Able to modify their own beliefs, assumptions, and behaviors with respect to how individuals, groups and organizations act in order to expand the options of approaches and increase their own effectiveness.

UNIT-I:

Leadership: Definition, Traits, Leadership function and components and components of leadership, leadership styles, leadership approaches, Theories of leadership, Situational leadership.

UNIT-II:

Group dynamics: Formation of group and stages of group development types of groups, size status and effect of group behavior, Role relationship, Group norms, Cohesiveness in groups Models of small group behavior, understanding Group effectiveness conflict and conflict resolution.

UNIT-III:

Management of stress: Potential sources of stress, consequences of stress management, strategies, Implication of stress for performance and satisfaction, time management crisis, delegation and information overload.

UNIT-IV:

Organization climate and culture: Factor affecting organizational climate, organization context, structure, process, physical environment, systems, value and norms measuring organizational climate, morale and organizational culture, creating, learning and sustaining culture organizational development (OD)

UNIT-V:

Case Analysis relating to subject

References Books: -

1. Stephen P. Robbins- Organizational Behavior, PHI.
2. L.M. Prasad- Organizational Behavior, Sultan Chand & Sons.
3. R. Aswathappa- Organizational Behavior, Himalaya Publishing House.
4. Rao & Narayana- Organizational Behavior, Konark Publishing House.

SEMESTER- II
Paper Code- BA - 2.4

MANAGEMENT INFORMATION SYSTEM

COURSE OUTCOMES

Record the current issues of information technology and relate those issues to the firm and analyze how information technology impacts a firm with of information technology and information system in business.

UNIT-I:

Management Information System: Basic Concept, sub-system, integrated system. Information requirement of various levels of management, organization on information processing units, MIS and data processing, operating elements of information system.

UNIT-II:

Decision support system: Introduction, Understanding DSS, MIS and DSS-Decision making, Types of Decisions, Analytics and Business Intelligence, Business Intelligence techniques

UNIT-III:

Analysis of information system: System Development Life Cycle (SDLC), structure approach, structure tools, structured chart, evaluation of system design, coupling cohesion.

UNIT-IV:

Design of information system: fundamental concept of the file design, data base design, input- output design, system security.

UNIT-V:

Case Analysis relating to subject

References Books:-

1. Murdic& Ross- Information system for modernmanagement.
2. C.S. Parker- Management information system- strategy andaction.
3. Lee- introductory system analysis and design (Vol- I &II).
4. A ZiyaAskatas- Structure Analysis and Design of InformationSystem.

SEMESTER-II
Paper Code- BA - 2.5

HUMAN RESOURCE MANAGEMNET – I

COURSE OUTCOMES

Student will demonstrate the role of HRM in an organization and utilize the knowledge to gain competitive advantage through people. This course will also enable the students to meet HR challenges in the present scenario.

UNIT-I

Concept, nature and scope of human resource management, vis-à-vis personnel management, growth and development of human resource management in India, Role and function of personnelmanager.

UNIT-II:

Human Resource Planning, concept and objective, job analysis, recruitment and selection procedures- tests and interviews, induction, promotion: purpose, transfer policies and procedures types of transfers, separations: different types of separations, management of redundancies.

UNIT-III:

Training in organization: its objectives, process of training, different types of training programs, on the job and off the job training, evaluation of training program.

UNIT-IV:

Performance appraisal: its objectives uses and methods traditional vs modern method, management by objective (MBO), total quantity management (TQM), Kaizen, JIT, QC, Quality of Work Life (QWL).

UNIT-V

Case Analysis relating to subject

References Books:-

1. Dale S. Beach, PersonnelManagement.
2. E.B. Flippo, PersonnelManagement.
3. C.B. Mamoria, PersonnelManagement.
4. C.S. VenkatRatnam and B.K. Srivastava, Personnel Management and HumanResources.
5. P. Amstrong, HRM. 6.P. Subba Rao, HRM: Text andCases.

SEMESTER- II
Paper Code- BA - 2.6

MARKETING MANAGEMENT - II

COURSE OUTCOME

Students will be able to Understand the function of Marketing Channel, Promotion and Marketing Research Process their needs and importance. Student will also learn the dynamic of Rural Marketing, Industrial Marketing and service Marketing.

UNIT - I

Place – Nature & Function of Marketing Channel: Channel Designs Decisions, Channel Management Decisions.

UNIT - II

Promotion – Personal Selling (Management of sales Force) Advertising (Nature of Various Media Suitability and Selection of Media), Sales, Promotion, Public Relations.

UNIT - III

Marketing Information System and Marketing Research Process – Need, Importance, Steps with Emphasis on Research Design.

UNIT - IV

Digital Marketing: Concepts and Evolution of Digital Marketing, Difference between Digital Marketing and Traditional Marketing, Objectives & Components of Digital Marketing, Digital Marketing Mix, Digital Marketing Tools. Retail Marketing- Concepts & its types.

UNIT - V

Case Analysis

Recommended Books –

1. Philip Kotler – Marketing Management – Analysis Planning, Implementation And Control MilleniumEdn.
2. Philip Kotler – Principles OfMarketing
3. W.J.Stanton – Fundamentals OfMarketing
4. V.S. Ramaswamy&Namakumari – Marketing Management-1
5. RanjanSaxena – MarketingManagement-2
6. Huh@spech – Industrial MarketingManagement
7. RichardM.Phil, Alexander & Cross – IndustrialMarketing
8. Bajaj, C.Srivastava, N. Retail Management, Oxford, NewDelhi

SEMESTER- II
Paper Code-BA - 2.7

FINANCIAL MANAGEMENT - II

COURSE OUTCOME

After completion of the course the students will be able to understand the details of various concepts like Dividend policy, Working Capital Management and financial systems. This paper also aims to develop analytical skills which facilitate the decision making in Business situations.

UNIT-I:

Dividend policy: Types of dividends, forms of dividends, Factors influencing dividend policy, MM Approach, Walter's Approach.

UNIT-II:

Working Capital Management: Concept, types, determinants of working capital, estimating working capital, requirements, Cash management, Cash planning, Inventory Management- Objectives and techniques.

UNIT-III:

Capital Market, Capital Market Environment, guidelines for issue of new securities, Role of SEBI, Secondary market, regulating for functioning stock market in India.

UNIT-IV:

Mutual Fund, Merchant Banking, Venture Capital, Foreign Capital & Collaboration.

UNIT-V:

Case Analysis relating to subject

References Books: -

1. Pandey I.M- Finance Management, BikashPublication.
2. Khan & Jain- Finance Management, TMH.
3. Chandra Prasanna- Finance Management, TMH.
4. Weston & Brigham- Managerial Finance, R.H.W.
5. Rostogi, R.P.- Finance Management, GalgotiaPublication.
6. Gordon and Natarajan- Financial Market Services, Himalaya Publishing House.
7. S. Guruswami- Financial Market Institutions, Thomson.

SEMESTER- II
Paper Code- BA- 2.8

SUMMER PROJECT

COURSE OUTCOME

Students will

- Understand on job skills, knowledge, attitudes, and perceptions along with the experience needed to constitute a professional identity.
- Get insight in working of the real organizations.
- Understand the specific functional areas and match linkages among different functions and departments.
- Discover career opportunities to students in exploring in their areas of interest

At the end of the 2nd Semester a student has to undergo on the job training during May-July in the organization for 6-8 Weeks to gain practical insight into the real-life business. During the semester he/she will prepare a report under the joint- guidance of a company executive and an internal guide from among the faculty members of the department.

Evaluation System:

Project Report- 50 Marks

Presentation- 25 Marks

Viva-voce- 25 Marks

The evaluation will be carried out by the faculty members of the Department and the external Examiner recommended by BOS. Attending the summer training is must and submission of report with which students are not promoted to 3rd Semester.

SEMESTER- III

Paper Code – BA - 3.1

BUSINESS COMMUNICATION
(Supportive – II)

COURSE OUTCOME

Students will be able to understand fundamentals of communication and demonstrate necessary skills to handle day-to-day managerial responsibilities, such as - making speeches, controlling one-to-one communication, enriching group activities, giving effective presentations, writing letters, memos, minutes, reports and advertising, and maintaining one's poise in private and in public.

UNIT:I

Communication: Definition, concept, process of communication, Dimension in organization-upward, downward, channels of communication, communication Strategy, barriers and gate way in communication.

UNIT:-II

Oral & Written communication: process and problems: role of non- verbal communication, conversation, presentation, probing, listening-level types, barriers and skills, use in business organization.

UNIT:-III

Proposal and report writing: objectives, type-requisites, And committee dynamics: purpose and process of committee formation, type of committees, barriers to effective working in committees.

UNIT:-IV

Pre and post meeting documentation: preparation of notice, agenda, negotiation-concept and types, interviews-process, public relation concept- need importance of PR in business organization, various media of public relation.

UNIT:-V

Case Analysis relating to subject

References Books: -

1. Rai and Rai- BusinessCommunication
2. Nagaraj and Rajarao- Essentials of BusinessCommunication
3. Pradhan, Bhende and Thakur- BusinessCommunication
4. R.Pal and J.S Korlahalli- OrganizationCommunication.

SEMESTER- III

Paper Code – BA - 3.2

HUMAN RESOURCE MANAGEMENT: II

COURSE OUTCOME:

Students will get brief knowledge on wage and salary administration, gives an insight into the IR scenario in India and create understanding about role of Govt., society and trade union in IR . Case studies will further augment the understanding of the subject.

UNIT:-I

Concept and definition of wages and salary, components of wages, criteria of wage fixation, job evaluation, method of wage determination in India, wage differentials, method of payment, incentive payment.

UNIT: -II

Industrial Relation: Concept, values and Scope, approaches to industrial relation- unitary, pluralistic systems and radical approaches, Role of state and industrial relation.

UNIT: -III

Trade unionism: concept, function and structure, union registration and recognition. Industrial dispute: concept, forms and types, cause, prevention and settlement of industrial disputes.

UNIT: -IV

Collective bargaining- nature, scope and functions, theories of bargaining- marketing, government and managerial, workers participation in management: nature, scope and objective, growth of workers participation in India.

UNIT: -V

Case Analysis relating to subject

References Books: -

1. C.B Mamoria, Dynamic Of Industrial Relations, HPH.
2. Sinha, Sinha And Sekar , Industrial Relation And Labour Legislation In India.
3. G.Remanujan, India Labour Movement.
4. Arun Monnappa, Industrial Relations, TMH.
5. B.R Patil, Collective Bargaining.

SEMESTER-III

Paper Code – BA - 3.3

PRODUCTION AND OPERATION MANAGEMENT

COURSE OUTCOMES

After completion of this course students will be able to acquire more knowledge on various operational aspects of Production Management, important Production Management techniques and different problem-solving methodologies. Case studies will further augment the understanding of the subject. and how the focus of TQM has become so important for all companies in recent times

UNIT:-I

Basic concept: Production and operation management function, various production processes and their selection: production and productivity, Measurement of productivity.

Work study: Method study- procedure the techniques, work measurement; time study and work sampling; performance rating and allowances.

UNIT:-II

Facility planning: facility location factors, principles and techniques used; different layout: Material handling systems and equipment.

Production design and development, strategies for new product introduction; development process: interaction product and process, interaction between product and process design, product life cycle.

UNIT:-III

Inventory Management: concept of inventory; independent and dependent demand inventory cost, structure, inventory models, EOQ, ABC and other classifications, principles of material requirement planning.

UNIT:-IV

Quality: concept of quality of design, total quality management concepts, project management organization, critical path method (CPM).

UNIT:-V

Maintenance management and computer-aided POM- maintenance and replacement policies; preventive and break down maintenance; economics of replacement, individual and group replacement.

References Books:-

1. Schroeder R.G- Operation Management, M.C GrawHill
2. Riggs J.L – Production Systems John Wiley & Sons
3. Dilworth J.B- Production Operation \ Operation Management, M.C GrawHill
4. Aswathappa & Sridhar Bhat- Production and Operation Management.

SEMESTER-III

Paper Code – BA - 3.4

BUSINESS LAW

COURSE OUTCOMES

Students will gain the knowledge on basic legal concepts, Indian legal environment in which Business operate and able to understand the fundamentals of legal issues pertaining to the business world to enhance their ability to manage businesses effectively.

UNIT:-I

Indian Contract Act, 1872- Contract defined, Elements of valid contract, classification of contracts, offer and acceptance, Consideration, Capacity to contracts, Free consent, Legality of object and consideration, Illegal agreements, Termination of contracts, Breach of contract, Agency.

UNIT: -II

Companies Act, 2013- Nature and kinds of companies, Formulation, Memorandum, Articles, Prospectus, Capital- Shares, Debentures, borrowing powers, minimum subscription, Directors; Winding up of companies.

Sale of Goods Act, 1930- Classification of goods, Condition & Warranties, Passing of Property, right of unpaid seller, Remedies for breach of Contract of Sale of Goods.

UNIT: -III

The Competition Act 2002: Competition Commission of India, Duties, Powers & Function of Commission, Duties of Director General, Penalties, Foreign Exchange Management Act, 1999.

UNIT: -IV

Consumer Protection Act. 1986 Objectives of the Central Council and State Council, Composition jurisdiction of district forum, Mode of complaints, Procedures of complaints, Penalty Negotiable Instrument Act, 1881.

UNIT: -V

Case Analysis relating to subject

References Books:-

1. N.D. Kapoor : Mercantile Law including Industrial Law, SultanChand.
2. P.P.S. Gonga: A Textbook of Business Law, S. Chand &Co.
3. S.S. Gulshan& S. Pandit : Business Law, Himalaya PublishingHouse.
4. K.R. Bulchandani : Business Law, Himalaya PublishingHouse.

SEMESTER- III
MARKETING MANAGEMENT GROUP

Paper Code- BA - 3.5

PRODUCT AND SERVICE MARKETING

COURSE OUTCOMES

This course enables the students to understand the details of the product and service Management and experience with CRM and role of IT in managing service operations

UNIT:-I

Product Management: Meaning, scope & Objectives of Product Management, Product planning, Product Positioning, New product: Planning and Development.

UNIT:-II

Brand Management: Basic Concept, Brand Building, Brand Equity, Brand Extension, Brand Positioning & Repositioning, Brand Personality.

UNIT: -III

Marketing of Services: Basic Concept, Characteristics & there marketing Implications, Classification of Services, Services marketing Management.

UNIT: -IV

Service Marketing Mix, Measuring and Managing Service Quality, Customer Retention & Relationship Marketing.

UNIT: -V

Case Analysis relating to subject

References Books:-

1. E.A. Pessemir- Product Management- Strategy & Organisation.
2. W.S. Sachs & G. Benson- Product Planning & Management.
3. Ramanuja Mazumdar- Product Management.
4. Adrian Payne- The Essence of Service Marketing.
5. Berry & Parsuraman- Service Marketing.
6. S.M. Jha- Service Marketing.

SEMESTER- III
MARKETING MANAGEMENT GROUP

Paper Code - BA- 3.6

CONSUMER BEHAVIOUR AND MARKETING RESEARCH:

COURSE OUTCOMES:

Students will be able to define the conception of consumer behavior, importance of consumer behavior in the context of marketing and details of Marketing Research.

UNIT:-I

Consumer Behavior- Meaning, scope & importance of its study in marketing. The consumer decision- making process, Consumer Buying Role, Personality, Perception and Learning.

UNIT: -II

Models of Consumer Behaviour- Nicosia, Howard- Sheth, Engel Kollat- Black Well, Sheth Family decision- making models, Diffusion of innovation.

UNIT: -III

Marketing Research Process- Research Design, data Collection, sampling and Sampling designs, Questionnaire.

UNIT: -IV

Data Analysis- Report- writing, Consumer Research, Product research & motivation Research.

UNIT: -V

Case Analysis relating to subject

References Books:-

1. James F. Engel, Roger D., Blackwell & Paul j. Miniard- ConsumerBehaviour.
2. Lean G. Schiffman&Desline Lazar Kanuk- ConsumerBehaviour.
3. D.D. Sharma- Marketing Research- Principle, Application &Cases.
4. D.J Luck & R.S Rubin- MarketingResearch.
5. Boyd- Marketing Research L. Concept &Cases.

SEMESTER- III
FINANCIAL MANAGEMENT GROUP

Paper Code - BA- 3.8

SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT:

COURSE OUTCOMES:

Students will be able to understand the concept of Portfolio Management and various tools and methods of evaluating the portfolio.

UNIT:-I

Meaning of Investment, Characteristics, Objective of Investment, Concept of risk and return, Elements of Risks, Measurement of Risks.

UNIT: -II

Portfolio Analysis: Portfolio Management, Phases of Portfolio Management, Markowitz Model, Sharpe Model, CAPM.

UNIT: -III

Fundamental Analysis: Economic Analysis, industry analysis, company analysis. Technical Analysis indicators forecasting individual stock performance measurement of managed portfolios.

UNIT: -IV

Efficient Market Hypothesis: Forms of Efficient market hypothesis, Competitive market hypothesis, Random walk Theory, Portfolio revision.

UNIT: -V

Case Analysis relating to subject

References Books:-

1. Jack Clart Francis- Management of Investment, McGrawHill.
2. Sharpe Alexander Baliem-Investment.
3. Jordan & Fisher- Security Analysis and Portfolio Management, Prenticehall.
4. Geogerry and Stanley- Fundamental of Investment Management, IrvinHomewood.

SEMESTER- III
FINANCIAL MANAGEMENT GROUP

Paper Code - BA- 3.9

MANAGEMENT OF FINANCIAL SERVICE:

COURSE OUTCOMES

Students will understand the Concepts & Practical dynamics of the Indian Financial System, Markets, Institution and Financial Services.

UNIT:-I

Money market: Money market instruments, capital market- Primary Market, Secondary Market, Function.

UNIT: -II

SEBI, Functions, powers, guidelines of SEBI for Primary Market, NSE, BSE

UNIT: -III

Merchant Banking: merchant banking in India, Merchant Banks and Services Commercial Banks, Venture Capital: Meaning, features, Indian Scenario.

UNIT: -IV

Credit Rating: Credit rating in India, Benefits of Credit Rating, Credit rating agencies in India, Rating Methodology, Credit rating symbols, limitations, Mutual Funds: importance classification, advantages, performance of Mutual Fund in India.

UNIT: -V

Case Analysis relating to subject

References Books: -

1. J.C. Verma- Merchant Banking.
2. Gordon, Natrajan- Financial Market & Service, Himalaya Publishing House.
3. R.V. Kamath, S.A. Keshan, & T. Viswanath- The principle of Practice of Leasing & Lease.

SEMESTER- III

HUMAN RESOURCE MANAGEMENT GROUP

Paper Code- BA – 3.11

TALENT MANAGEMENT

COURSE OUTCOMES

The students will be able to equip themselves with necessary skill, knowledge to manage the talents as a super keeper in the organization and to learn how to train, retrain and compensate the talented employees using various techniques.

UNIT:-I

Overview of Talent management, Strategic Importance of Talent, Talent imperatives, Elements of Talent management, Workforce Diversity and Talent management, Role of HR in Talent management

UNIT: -II

Talent Acquisition and Workforce Planning: Identifying Talent Needs, Sourcing Talent, Recruitment, Screening and Selection. Talent Development and Deployment: Methods of Talent Development, Competency Mapping, Competency Models.

UNIT: -III

Talent Retention and Engagement: Cost and Consequences of Talent Departure, Diagnosing Causes of Talent Departure, Designing Engagement Strategies, Drivers of Engagement.

UNIT: -IV

Effectiveness of Talent Management: Measuring Contribution of Talent to Business Performance, Talent Metrics, Transformation and reorganization of HR, Future Challenges of talent management for the organization.

UNIT: -V

Case Analysis relating to subject

References Books: -

1. Cheese, p. Thomas, R.J., & Cairg, E. (2008). The Talent Powered Organization. Kogan page Ltd.
2. Berger, D.R., & Berger, L.A. (2011). The Talent Management Handbook (2nd ed.). Tata McGraw Hill.
3. Stringer, H., & Rueff, R. (2006). Talent Force: A new manifesto to the human side of business. Prentice hall.
4. Effron, M., & ort, M. (2010). One page talent management: eliminating complexity, adding value. Harvard businesspress.

SEMESTER- III

HUMAN RESOURCE MANAGEMENT GROUP

Paper Code- BA – 3.13

EMPLOYEE RELATION AND LABOUR LEGISLATIONS COURSE

OUTCOMES

Students will have brief understanding on different approaches of employee relations, Trade Unionism and labour legislations. This paper also develops an idea on application and interpretation of the various labour laws and their implications for industrial relations and labour issues.

UNIT:-I

Approaches of industrial relations: Unitary, Pluralistic, Radical Approaches, IR system, Concept and Values in IR – Individualism vs. Pluralism, Integrity and trust, fairness and equity, role of state IR

UNIT: -II

Trade Unionism & Collective Bargaining: Concept, Function and Structure, Union Registration and Recognition, Trade Unionism in India, Nature, Scope, Stages and Functions of Collective Bargaining, Bargaining Process. Industrial Disputes: Concept, Causes and Types, Procedure for Settlement of Disputes in India, Grievance Management.

UNIT: -III

Participative Management: Concept, scope and objectives, workers participation in Indian industries, employee empowerment, employee participation in management. Industrial Discipline- Disciplinary action, employee counselling. Legal Aspects and employee relations

UNIT: -IV

Factories act, 1948, Mines Act 1952, contract labour (Regulation and Abolition) Act, 1970. Trade union Act, 1926, Industrial Employment (standing orders) Act, 1946, industrial Disputes Act, 1947

UNIT: -V: Case Analysis relating to subject

References Books: -

1. Venkat Ratnam, C.S. (2006) Industrial Relations. Oxford university press
2. Sinha P.R.N., Sinha, I., & Shekhar, S.P. (2009). Industrial Relations, trade unions and labour legislation (4th ed.). Pearson education
3. Memoria, C.B., Memoria, S., & Gankar, S.V. (2013) Dynamics of Industrial Relations (13th ed.). Himalaya Publishing House.
4. Malik, P.L. (2009). Handbook OF Labour and industrial law (12TH ed.). eastern book company

SEMESTER-IV

Paper Code- BA – 4.1

STRATEGIC MANAGEMENT

COURSE OUTCOMES:

After studying this paper, a student can get appropriate knowledge and skills to take strategic managerial decisions and optimally utilize the resources available.

UNIT:-I

General Concept: Mission, Objective and strategy, SWOT analysis strategy and product life cycle, comparative displays, design of corporate identity.

UNIT:-II

Process of strategy formation: Porter's 5- Bocks model- strategy towards buyers and suppliers, genetic strategies- cost, Difference and focus strategies, market signals and competitor selection, recent development in strategy, core competence, strategic vision, strategic intent, Achieving national competitive advantage.

UNIT:-III

Alternative Strategies: Stability and growth strategy, vertical integration and capacity expansion, Division, Diversification, Mergers and acquisition, strategic alliances, Retrenchment Strategy.

UNIT:-IV

Implementation of strategy: Implementation variable, organization structure Leadership, Value and aspiration and management: Social Responsibility of Business; Evaluation of corporate strategy.

UNIT:-V

Case Analysis relating to subject

References Books:-

1. Michael Porter- Competitive Strategy, FreePress.
2. Ansoff - Corporate Strategy, Pelican.
3. Ansoff- Strategic ManagementMacmillan.
4. Srivastave- Corporate Strategy and PlanningHimalaya.
5. Christenson Andrews, Guth& Porter, Business Policy, Text & Cases,Irwin.
6. Sharpin - Strategic Management, McGrawHill.
7. Smith, Griman- Dynamic Of competitive Strategy,Stage.

SEMESTER-IV

Paper Code- BA – 4.2

BUSINESS ETHICS AND CORPORATE GOVERNANCE

Course Outcome

This course provides a conceptual and theoretical understanding of ethical corporate governance and helps the students to gain insight into and awareness of ethical behaviour in corporate. It will also aid to determine the ethical dilemmas in common business situations, to recognize them, and to find ways to resolve in order to enhance the corporate performance.

UNIT-I

Corporate Ethics: Ethics and Business (Indian And International), Sources Of Ethical Knowledge For Business, Ethics In Business Disciplines, Roots Of Unethical Behaviour, Ethical Decision Making.

UNIT-II

Corporate Social Responsibility (CSR): CSR Principles and Strategies, Models Of CSR, CSR Indian And International Perspective. Major Failures in Corporate Governance Indian and International Context.

UNIT-III

Conceptual Framework of Corporate Governance: Meaning, Theories Of Corporate Governance, Models Of Corporate Governance, Model of Corporate Governance: Director, Board Role and Responsibilities, Regulatory Framework of Corporate Governance In India

UNIT-IV

Codes And Standards on Corporate Governance: OECD Principles of Corporate Governance, 1999, CACG Guidelines/Principles for Corporate Governance in Commonwealth, 1999, The Corporation and Public Policies In Governing Business.

UNIT-V

Case Analysis relating to subject

References Books:-

1. Fernando, A.C.(2010). Business Ethics and Corporate governance. Pearson Education
2. Velasquez, M.G.(2011). Business Ethics : CONCEPT AND CASES(7th ed.). PHI Learning.
3. Gosh, B.N.(2009). Business Ethics and Corporate governance. Tata McGraw Hill
4. Soloman, J.(2011). Corporate governance and accountability(3rd ed.). John wiley and Sons.

SEMESTER-IV
Paper Code- BA – 4.3
ENTREPRENEURSHIP DEVELOPMENT

Course Outcome

This paper sensitizes the students to understand entrepreneurship as a career and skill required for it and provide knowledge on entrepreneurial environment and related issues. Finally encourage students to take entrepreneurship as profession and to participate in business incubation

UNIT- I

Entrepreneurship; Concept, Characteristic of successful entrepreneur, types, role of entrepreneurship in economic development, Difference between entrepreneur and entrepreneurship, entrepreneur and manager, factor affecting entrepreneurship.

UNIT-II

Micro, small and medium entrepreneur; Micro enterprises, small enterprises, medium enterprises, large enterprises, features of small enterprises, importance of small enterprises, Government policies of small enterprises.

UNIT-III

Planning for an Industrial unit/ Enterprises; functional plan: marketing plan, marketing research for new venture, identification of business opportunities, criteria for selection of small enterprise, inputs required for setting up a small enterprise for a new entrepreneur, entrepreneurship development, factors affecting entrepreneur growth. (Industrial Visit may be insisted).

UNIT-IV

Enterprise Management; Business: features of business, components of business, Different form of business organization and their characteristics, sole proprietorship: basic characteristics of sole proprietorship, advantages of sole proprietorship, disadvantages, Partnership: basic characteristics of Partnership, types of Partnership, Partnership deed, advantages, disadvantages, kinds of Partnership.

UNIT-V

Institutional support to entrepreneur; need for institutional support, specialized institution: SIDBI, SIDO, SSI, IPICOL, IDCO, DRDA

References Books:-

1. Entrepreneurship development by Swarup Sahoo, Himalaya Publication House, Mumbai
2. Entrepreneurship by Abha Mathur, Taxman , New Delhi

SEMESTER-IV
Paper Code- BA - 4.4

DISSERTATION AND VIVA-VOCE

COURSE OUTCOMES

Students will be able to Plan, and engage in, an independent and sustained critical investigation and evaluation of a chosen research topic relevant to environment and society, systematically identify relevant theory and concepts, relate these to appropriate methodologies, apply appropriate techniques and draw appropriate conclusions.

1. A student shall have to do a dissertation of 4 credits under the supervision of a teacher/ faculty of the department and submit the dissertation report to the department and there would be a Viva-Voce examination.
2. The report prepared by the student will be known as Dissertation Report. The report should ordinarily be based on primary data. It should reflect in depth study of micro problem, ordinarily assigned by the organization where student chooses to research.
3. Relevant tables and bibliography should support it. One comprehensive chapter must be included about the organization where the student has undergone training. This should deal with brief history of the organization, its structure, performance products/services and problem faced.
4. The average size of report ordinarily will be of minimum 70 pages in standard font size (12/14) and double spacing.
5. Two neatly typed and soft bound (paper-back) copies of the report will be submitted to the College/Institute. The report will be typed in A-4 size paper

Evaluation System:

Project Report-	50 Marks
Presentation -	25 Marks
Viva-voce-	25 Marks

SEMESTER-IV

MARKETING MANAGEMENT GROUP

Paper Code- BA - 4.5

SALES AND DISTRIBUTION MANAGEEMNT

COURSE OUTCOMES

Students will able to find out distinguish importance of services marketing in the global, evaluate, classify, imagine and plan the successful service marketing. Learners also analyze the challenges and opportunities before the marketing of services and to develop the suitable marketing mix .

UNIT:-I

Management of sales force - requirement, selection, training motivation & compensation of sales force.

UNIT: -II

Control evaluation of sales force, sales quotas, sales territories, forms of sale organization.

UNIT: -III

Distribution Management: Channel Behavior & organization, channel design decision, channel management decision.

UNIT: -IV

Physical Distribution- Nature, objective, warehousing, inventory & Transportation Management

UNIT: -V

Case Analysis relating to subject

References Books: -

1. Still Candiff&Govoni- Sales Management Decisions, Strategies &cases.
2. Rolph E. Ehderson, Joseph F. Fair & Alan J Bush- professional salesmanagement.
3. Albert Dumm&Eugeri, Johnson- Managing your salesterm
4. Sterms, Foster &woodside- Marketing Channels, system &strategies.

SEMESTER-IV

MARKETING MANAGEMENT GROUP

Paper Code- BA – 4.6

INTERNATIONAL MARKETING

COURSE OUTCOMES

The course participants will become more familiar with the nature and practices of international marketing. They should feel equally confident to be able to distinguish international marketing mechanics from the domestic marketing models and approaches.

UNIT:-I

International marketing: nature & scope, international Vs. Domestic Marketing, Global Marketing Environment.

UNIT:-II

Product Planning & Pricing for Export, Overseas Distribution & Promoting Product Globally.

UNIT:-III

Export: Import Policy, role of regional economic grouping- EEC, UNCTAD, WTO.

UNIT:-IV

Export: Documentation & Procedure, Role of state trading corporation export promotion council.

UNIT:-V

Case Analysis relating to subject

References Books:-

1. International marketing with power web by Philip R. Cateora, John Graham, Hardcover, Publisher:McGraw-Hill/Irwin.
2. Global marketing(3rd Edition) by warren J. Keegan, Mark Green, Publisher: PrenticeHall
3. Global Marketing Management by Masaaki Kotabe, KristiaanHelsen, Publisher: Wiley.

SEMESTER-IV

FINANCE MANAGEMENT GROUP

Paper Code- BA – 4.8

WORKING CAPITAL MANAGEEMNT

COURSE OUTCOMES

After completion of this paper students will become more familiar with determinants of working capital and techniques of managing the components of working capital.

UNIT:-I

Working capital management: Introduction, Determinants of working capital. Operating Cycle, working capital estimation, determining financing Mix Financing Current Asset.

UNIT: -II

Cash Management: Motives of Holding Cash, Objective of cash management, Cash budget, Cash Management Models.

UNIT: -III

Receivable Management: Introduction, Objective, Credit Policies, Credit terms, Collection policies, Monitoring and control of Receivable.

UNIT: -IV

Inventory Management: Introduction, objectives, need to hold inventories, Inventory Management Techniques, inventory pricing and financing.

UNIT: -V

Case Analysis relating to subject

References Books: -

1. V.K Bhalla- Working capital Management, Anmol Publications, NewDelhi.
2. I. M. Pandey- Financial management, Vikas Publishing House, NewDelhi.
3. Prasanna Chandra- Financial management, Prentice Hall, NewDelhi.
4. Hill And Sartoris- Short Term Financial Management, Prentice Hall, NewDelhi.

SEMESTER-IV

FINANCE MANAGEMENT GROUP Paper Code- BA – 4.9

INTERNATIONAL FINANCE:

COURSE OUTCOMES

Students will have through understanding on Challenges International Financial management. Importance of Balance of payment and Foreign Exchange Market. Also develops the students to invent improved solution in complexities of managing finance of multinational firm.

UNIT-I

Meaning and nature of International Finance, Importance of International Finance, Difference Between International Financial management and Domestic financial Management, Recent Challenges International Financial management.

UNIT-II

Concept of Risk and Return, Types of Risk, Causes of Risk, Foreign Exchange Risk and Exposure, Exposure Management Constraints, Managing Economic Exposure.

UNIT-III

Balance of Payment, Meaning, Concepts, Importance of Balance of payment of India.

UNIT-IV

Foreign Exchange Market, Meaning and features, Function Factors affecting Foreign Exchange Market, Futures, Swaps.

UNIT-V

Case Analysis relating to subject

References Books:-

1. Shapiro- Multinational FinancialManagement
2. Giddy- Global FinancialMarket.
3. Devid F. Derosa- Mangeing ExchangeRisk.

SEMESTER-IV

HUMAN RESOURCE MANAGEMENT GROUP Paper Code- BA – 4.11

HUMAN RESOURCE DEVELOPMENT

COURSE OUTCOMES

Course creates an understanding on the role human resource development (HRD) on all the human resource activities of an organization, provides knowledge on the process of formulating and implementing organizational strategy for the development of talent. This course enables the students to cover the essential concepts in training and development and build a sound foundation for understanding the key issues.

UNIT:-I

Concept and objective of Human Resource Development, HRD Matrix, HRD climate, elements and measurement of HRD climate, workers development: objective, HRD as a system, HRD- A function, quality circle- A tool for worker development, job enrichment.

UNIT:-II

Line Manager and HRD, The supervisor and HR, motivation aspects of HRD practices in India with reference to manufacturing and service sectors- SAIL and State Bank of India.

UNIT:-III

Importance of training and management development- Its need and objectives in organization, method of determining training, Learning and learning theories, techniques of management development- job rotation under study methods case study, incident method, role playing in basket exercise, management game & T- Group Training.

UNIT:-IV

Performance appraisal: its objective, uses and methods, management by objectives (MBO), potential Appraisal, performance appraisal in selected organization (SAIL, NALCO).

UNIT:-V

Case Analysis relating to subject

References Books: -

1. U. Pareek and T.V. Rao, Designing and Managing human Resources System.
2. Lynton and Pareek, Training and Development.
3. R. Rayagopal, Human Resources Development.
4. S. Managaraj, Human Resources Development Practices.
5. T.V. Rao and K.K. Verma, Alternative Approaches and Strategies of HRD.
6. Arun Monnappa, Industrial Relation, TMH.

SEMESTER-IV

HUMAN RESOURCE MANAGEMENT GROUP

Paper Code- BA – 4.12

EMPLOYEE COMPENSATION AND SOCIAL SECURITY

COURSE OUTCOMES

This course promotes understanding on issues related to the compensation or rewarding human resources in the corporate sector, public services and other forms of organizations. This course also provides an understanding of the theoretical, applied and legal aspects of employee compensation and social security with special reference to India

UNIT-1

Introduction: Conceptual Framework of Compensation Management, components of Compensation, concept of wages- minimum wages, fair wages, living wages and CTC, theories of wages, job evaluation, wage and salary administration, wage differentials, wage fixation, method of wage determination in India

UNIT-II

Compensation at Micro level: Compensation practices of multinational and global organizations, incentive-based pay systems, Executive Compensation practices of MNCs. Employee Compensation and performance linked Compensation: employee Compensation, incentive payment, types of incentive plans

UNIT-III

Minimum wages Act, 1948, Payment of Wages Act, 1936, Payment of Bonus Act, 1965, Equal remuneration Act, 1976

UNIT-IV

Workmen's Compensation Act, 1923, Employees state Insurance Act, 1948, Employees provident funds and (Miscellaneous Provisions) Act, 1952, Payment of gratuity Act 1972, Maternity Benefit Act, 1961

UNIT-V

Case Analysis relating to subject

References Books:-

1. Milkovich, G.T., Newman, J.M., & Gerhart, B.A. (2010). Compensation (10TH ed.). Tata McGrawHill.
2. Martocchio, J.J., (2014). Strategic Compensation (7th ed.). Pearson Education
3. Henderson, R.I., (2006). Compensation MANAGEMENT in a knowledge based world (10th ed.). Pearson Education
4. Malik, P.L. (2013). Handbook of labour and industrial law (15th ed.). Eastern book company.