

## B.A/B.SC - ANTHROPOLOGY

### PROGRAM OUTCOME:

B.A./B.Sc in Anthropology programme is a three-year course in yearly mode.

- The students of B.A/ B.Sc Anthropology will learn about what is Anthropology? , its holistic nature and applied aspects.
- Student will well-equipped with scientific knowledge of bio-cultural evolution, human variation and comprehensively understand the anthropological concepts and theories relating to culture.
- They will be familiar with the knowledge of Anthropological fieldwork tradition, data collection techniques & methodologies.

### Course Outcomes:

#### B.A. / B.Sc.-I

##### Subject: Anthropology

##### Paper-I: Foundation of Anthropology

Study about almost all branches of Anthropology is physical, social, cultural and archaeology.

##### Paper-II: Physical / Biological Anthropology

Know about evolution and distribution of human population.

##### Practical

This paper covers study of human bones & also applied field like Craniometry and Somatometry.

#### B.A. / B.Sc.-II

##### Subject: Anthropology

##### Paper-I: Archeological Anthropology

Study of past human culture which enables the students to understand present cultures in a better way.

##### Paper-II: Tribal Culture of India

Acquire knowledge about tribal cultures in respect to family, marriage, worship economic, political, religion organization and present government policies for their development.

##### Practical

In this paper student will acquire knowledge regarding Paleolithic Mesolithic & Neolithic tools and it also ensure the students to study tribal material culture.

#### B.A. / B.Sc.-III

##### Subject: Anthropology

##### Paper-I: Fundamentals of Human Genetics, Human Growth and nutrition.

Acquire basic knowledge of genetics and importance of growth, Ecology and Demography.

**Paper-II: Theories in Social - Cultural Anthropology** Know about cultural Anthropology with different theories & contribution of famous Anthropologist in the field of social culture Anthropology.

##### Practical

This paper deal with Somatometry genetics, Blood group Dermatoglyphics and basic Statistical tools

## **Course outcome of B.Sc. I Botany**

### **Paper-I Viruses, Botany, fungi, Lichens and Algae.**

On Completion of the course, students are able to:-

Co 1. Understand the scope of microbiology in terms of human welfare.

Co2 Understand the role of viruses, bacteria, cyanobacteria, bacteriophage. Co3 Understand the diversity among algae.

Co4 Know the systematic, morphology and structure of algae. Co5 Understand the life cycle of algae.

Co 6 Student will be able to life cycle and disease of fungus.

Co 7 Know the systematics, Structure, economic importance of lichens.

Co8 Students will be able to understand importance of mushroom technology

### **Program Specific Outcome of B.Sc. Botany**

- To developed scientific temperament.
- To provide knowledge of scientific aspects of Botany.
- To developed critical thinking a.
- To demonstrate the use of scientific method.

## **Paper-II Bryophytes, Pteridophytes, Gymnosperms and Palaeobotany.**

On Completion of the course, Students are able to:-

Co 1. Understand the morphological diversity of bryophytes, pteridophytes, and Gymnosperms.

Co2 Understand the economic importance of bryophytes, pteridophytes and Gymnosperm.

Co 3 Know evolution during different era of geological timescale. Co 4 Understand about fossilization methods.

Co5 Know the scope of Palaeobotany types of fossils its role in geological time scale.

Co 6 Understand the various fossils genera representing different fossil groups.

### **PRACTICAL B.Sc. – I Botany**

Co 1 Students will be able to study Practically algae, fungi, Bryophyte Pteridophytes and Gymnosperms.

Co 2 Students will be able to morphological, Anatomical study by practically of algae, fungi, Bryophyte, pteridophyte and Gymnospermic plant or plant body

### **Course Outcome of B.Sc. – II Botany**

**Paper- I** Plant Taxonomy, economic botany plant anatomy and embryology. On completion of the course, students are able to

- Understand the classification and Binomial nomenclature.
- Understand the international code of nomenclature for algae, fungi and plants.
- Understand the plant morphology and basic taxonomy.
- Know the economic importance some valuable fiber yielding, timber yielding medicinal plants, spices plants and bodies seal plants.
- Understand the basic concept of plant anatomy e.g. Monocot, Dicots, Root, Stem, & Leaf.
- Understand the basic concept of embryology.

**Paper-II** Ecology & Plant Physiology.

On completion of the course, students are able to

- Understand the aims and scope of ecology.
- Know the different ecological factors such as biotic and abiotic factors.
- Understand the adaptation of the to various conditions
- Understand the concept of ecosystem and its function.

- Know the energy flow, food chain, and food web.
- Understand the ecological succession biochemical cycle.
- Know importance of plant physiology.
- Learn and understand about mineral nutrition, and plant water relation.
- Understand the photosynthesis, C<sub>3</sub> and C<sub>4</sub> pathway.
- Understand the respiration in higher plants.

### **PRACTICAL B.Sc. – II Botany**

Co1 Students will be able to understand and perform practical related to plant description, Plant anatomy, Plant embryology, photosynthesis, respiration, Diffusion and Osmosis.

### **Course Outcome of B.Sc. – III Botany**

**Paper- I** Analytical technology, Plant Pathology Experimental Embryology, Elementary biostatistics Environmental pollution and conservation.

On completion of the course, students are able to:-

Co 1. Understand about principle and application of analytical instruments eg. chromatography incubator, autoclave, spectrophotometer and microscopy .

Co2 Understand the significance and different type of plant tissue cutler.

Co 3 Understand the principles, general symptoms, and their control method of bacterial, viral and fungale disease in vulnerable crop plants .

Co4 Understand the environmental pollution and their control method. Co 5 Understand the introduction and application of Biostatistics.

Co 6 Understand the measure of central tendency and measures of dispersal.

### **Course Outcome of B.Sc. – III Botany**

**Paper- II** Genetics, Molecular biology, Biotechnology and Biochemistry. On completion of the course, Students are able to:-

Co1. Understand about cell wall, plasma membrane cell Organelles and cell division.

Co2 Understand about gene concept, Mendel's laws, and chromosomal aberration.

Co 3 Learn the scope and importance of molecular biology.

Co 4 Understand the importance of Biotechnology in human welfare.

Co5 Understand about biochemical nature of nucleic acid, their role in living system.

Co6 Understand the process of protein synthesis and role of genetic code. Co7 Understand about concept of enzyme activity and enzyme inhibitory

## **PRACTICALB.Sc. – III Botany**

Co 1 Students will be able to understand and perform practical on tissue culture.

Co 2 Students will be able to understand and practically perform basic concepts analytical instruments.

Co 3 Students will be able to understand and perform practically basic concepts of viral, fungal and bacterial disease.

### **COURSE OUTCOME OF M.Sc. – Ist Sem BOTANY**

**Paper- I** Code – **MBT101** (Cell and Molecular Biology) On completion of the course, Students are able to:-

Co 1. Understand to modern tools and technique of cell biology.

Co2 Understand about cell component and their function cell multiplication and turnover.

Co3 Understand about gene structure regulation and gene expression in eukaryotes.

Co4 Understand about cell organelle genome such as mitochondrial and chloroplast gene.

### **COURSE OUTCOME OF M.Sc. – Ist Sem BOTANY**

**Paper- II** Code – **MBT102** (Genetics and cytogenetic) On completion of the course, Students are able to:-

Co1. Understand about microbial genetics and Mendelian and Non-Mendelian inheritance.

Co2 Understand about Eukaryotic genome and basic concept of linkage mapping.

Co 3 Understand basic concept of mutation.

Co 4 Understand the basic concept of cytogenetics.

### **COURSE OUTCOME OF M.Sc. – Ist Sem BOTANY**

**Paper- III** Code – **MBT103** (Physiology and Biochemistry) On completion of the course, Students are able to:-

Co 1. Understand basic concept of plant physiology and Biochemistry .

Co2 Understand the hierarchical structure of protein and enzyme technology.

Co3 Understand the concept of plant hormones and other growth regulators.

Co 4 Understand the physiology of plant reproduction.

## **COURSE OUTCOME OF M.Sc. – IstSem BOTANY**

**Paper- V** Code– **MBTA02** (Recombinant DNATechnologyandProteomics) On completion of the course, Students are able to:-

Co1. Understandthe concept of recombinant DNATEchnology. Co2 Understandtheconceptof DNAandDNAsequencing.

Co3 Understandtheconceptoftranslation&pasttranslationinprokaryotesand eukaryotes.

Co 4 Understand the concept of Electrophoresis, and chromatography.

## **PRACTICAL**

Co 1. Practically Understandaboutisolation of mitochondria, chloroplast. Co 2. Practically Understandabout different stages of mitotic cell division. Co3 PracticallyUnderstandaboutExtractionofgenomefromplant cell.

## **COURSE OUTCOME OF M.Sc. – IIndSem BOTANY**

**Paper-I** Code–**MBT201**(Developmentalbiology) On completion of thecourse, Students areable to:-

Co1. Understand comparative morphology and developmental anatomy ofBryophyte and pteridophytic plants.

Co 2 Understand the concept secondary growth and wood formation in vascular plants.

Co3 Understandtheconceptofembryogenesisinvascularplants. Co4 Understandthebasic conceptofpollen-pistilinteraction.

## **COURSE OUTCOME OF M.Sc. – IIndSem BOTANY**

**Paper- II**Code– **MBT202** (Pathogensandpests of cropplants) On completionofthe course, Studentsareableto:-

Co1 Understand thegeneralcharacteristicsofpestincropplants. Co2 Understandcrop pathogenic organism.

Co3 Understand basic concepts of plant pathogen interactions in crop plants.

Co4 Understand basicconceptsofcontrolmechanism ofbacterial, fungal, insects and nematode disease in cropplants.

## **COURSE OUTCOME OF M.Sc. – IIndSem BOTANY**

**Paper-III**Code – **MBT203** (Biotechnology and resource utilization) On completion ofthe course, Studentsareableto:-

Co 1 Understand the various concept of plant tissue culture.

Co2 Understand the various concept of gene transfer technology. Co 2 Understand the importance of economically important plants.

## **COURSE OUTCOME OF M.Sc. – IIIndSem BOTANY**

**Paper- IV** Code – **MBTB-02** (Systematics, Evolution and Environmental Science)

On completion of the course, Students are able to:- Co1 Understand basic concepts of systematics botany.

Co2 Understand basic concept of Environmental Science. Co 3 Understand basic concept of Ecosystems.

Co4 Understand basic concept of Human health and environmental change. Co 5 Understand basic concept of natural resources and their management.

**PROJECT WORK:-** Skill development and social outreach.

Co1 Students will be able to study enhance practical skills and engage in society through this skill development and social outreach Course of.

### **PRACTICAL**

Co 1. Practically Understand morphology and anatomy of bryophytic plants.

Co2. Practically Understand about Xerophyte, Hydrophyt and halophyte plants.

Co 3 Practically Understand about basic concepts of sterilization method of culture media.

Co4 Practically Understand about diseases symptom of different crop plants.

Co5 Practically Understand about basic concepts of culture media preparation.

## **COURSE OUTCOME OF M.Sc. – IIIrdSem BOTANY**

**Paper- I** Code – **MBT301** (Algae Environment Human welfare.) On completion of the course, Students are able to:-

Co 1. Understand diversity and distribution of the algae.

Co2 Understand about recent development of Algal classification. Co3 Understand about Algal culture technique.

Co 4 Understand about industrial use of seaweeds and other algal sps.

## **COURSE OUTCOME OF M.Sc. – IIIrdSem BOTANY**

**Paper- II** Code – **MBT302** (Principles of Ecology) On completion of the course, Students are able to:-

Co1. Understand the basic concept of Ecology. Co2 Understand the aims and scope of Ecology.

Co3 Understand the Environmental stress and their management. Co 4 Understand the concept of Biodiversity and its conservation.

## **COURSE OUTCOME OF M.Sc. – IIIrdSem BOTANY**

**Paper- III** Code– **MBT303** (Advances in Archegoniate) On completion of the course, Students are able to:-

Co 1. Understand about early land plants and their role in ecosystem. Co 2 Understand the basic concept of pteridophytes.

Co 3 Understand the concept of gymnosperm.

Co 4 Understand the evolution of pollination mechanism and embryogeny of Gymnosperms.

### **COURSE OUTCOME OF M.Sc. – IIIrd Sem BOTANY**

**Paper-V** Code – **MBTC02** (Microbs and Microbial Technology) On completion of the course, Students are able to:-

Co 1. Understand the Diversity of the microbial world.

Co 2 Understand the agricultural important of microorganism.

Co 3 Understand the basic concept of Environmental microbiology.

Co 4 Understand the basic concept of food and Industrial microbiology.

### **PRACTICAL**

Co 1. Practically Understand about different type of fresh water algae.

Co2. Practically Understand about physical and chemical characters of soil.

Co3 Practically Understand about density, frequency and abundance in plant community.

Co4 Practically Understand about cytological study of bryophytic and pteridophytic plant.

### **Program specific outcome of M.Sc. Botany**

The M.Sc. Botany curriculum is designed to equip students with subject domain knowledge and technical skills pertaining to plants in a holistic manner. It is aimed to train the student in all the areas of plant science with a unique combination of core and Elective papers with significant interdisciplinary components as CBCS. They are made aware about the social and environmental issues, significance of plants and their relevance to the national economy.

**POs.1** A student completing the course is able to understand different branches of botany such as cell and molecular biology, evolutionary biology, developmental biology, physiology and biochemistry, genetic and Molecular biology.

**POs.2** They become competent enough in various analytical and technical skills related to plant science.

**POs. 3** The students completing the program are able to identify various plants, design and execute experiments related to basic studies on evolution, ecology, developmental biology, physiology, Biochemistry, Molecular biology, Genetics, Biotechnology and the application of statistics.

**POs. 4** The students completing the program are capable to perform short research projects using various tools and techniques in plant science and development scientific temperament and research attitude.

## **M.Sc.4th semester (Botany)**

Paper -1 (In Vitro Technology and Industrial applications)

CO1- Students will be able to understand micropropagation of various plants.

CO2- Students will be able to understand problems in plant tissue culture system.

CO3- Students will be able to understand use of bioreactor for secondary metabolite production.

Paper -2 (Reproductive Biology of Flowering plants)

CO1- Students will be able to understand plant embryology of flowering plants. Paper – 3 (Molecular interactions of plants with symbionts, pathogens and pests)

CO1- Students will be able to understand molecular interaction of plants with symbionts, pathogens and pests.

Paper – 4 (Agriculture ecology- principle and application)

CO1- Students will be able to understand principles and application of agricultural ecology.

Paper 5 – Dissertation Work –

CO1- Through dissertation work students will be able to enhance scientific temper, research skill, critical think and analyze.

## **NEW**

### **COURSE OUTCOME OF M.Sc. – IstSem BOTANY**

**Paper- I** Code – **MBT101** (Microbiology)

On completion of the course, Students are able to:-

Co1 Understand brief idea of microbes and Berge's manual. Co2 Understand Bacterial genetics and genetic recombination. Co 3 Understand viruses and viral genome.

Co4 Understand basic concept of bacterial culture media sterilization and culture methods.

### **PRACTICAL**

Co1. Practically Understand about anatomy of important algal and fungal plants.

Co 2. Practically Understand about Morphology and anatomy of Bryophyte, Pteridophyte and Gymnosperms.

**Paper- II** Code – **MBT102** (Phycology)

On completion of the course, Students are able to:- Co1 Understand basic concept of Algae.

Co 2 Understand Economic importance of Algal technique.

Co 3 Understand Thallus and cellular structure of cyanophyta.

Co4 Understand brief account of prochlorophyta Euglenophyta, Xanthophyta, etc.

### **PRACTICAL**

Co 1. Practically Understand about Floral description.

Co2. Practically Understand about Demonstration of Photosynthesis and respiration.

Co3. Practically Understand about determine the Density, Frequency and Abundance.

### **Paper- III Code – MBT103 (Mycology)**

On completion of the course, Students are able to:-

Co 1 Understand basic concept and Economic imp. of fungi.

Co2 Understand General account of Myxomycotina, Mastigomycotina And other classes of fungi.

Co 3 Understand basic concept of Deuteromycotina.

### **PRACTICAL**

Co 1. Practically Understand about basic concept of tissue culture.

Co2. Practically Understand about basic concept of analytical instruments.

### **Paper- IV Code – MBT104 (Bryophytes of Pteridophytes)** On completion of the course, Students are able to:-

Co 1 Understand general account of algae and pteridophytes.

Co2 Understand comparative account of different classes of Bryophyte.

Co3 Understand basic concept of pteridophytes. Co4 Understand about early vascular plants.

### **Paper- V Code – MBT105 (Gymnosperms and Palaeobotany)** On completion of the course, Students are able to:-

Co 1 Understand basic concept of Gymnosperms.

Co2 Understand comparative morphology, anatomy in various group of pteridophyta.

Co 3 Understand basic Geological information.

Co4 Understand applied palaeobotany life as fuel. Maker, and application of palaeopalynology.

### **PRACTICAL**

Co1. Practically Understand about different plant diseases symptoms. Co 2. Practically Understand about different Ethno-botanical plants.

## DEPARTMENT OF CHEMISTRY

### Program outcomes, Program-specific outcomes, and Course outcomes for UG and PG Chemistry

#### B.Sc. Chemistry

##### Program outcomes for UG:

After successfully completion of the three-year degree program in chemistry students will be able to learn:

<b>B.Sc. Chemistry</b>	
<b>PO-1</b>	To validate the procedural professional knowledge in the field of chemistry. Knowledge of Chemistry is also necessary for the productivity development and management of industry, manufacturing of several drugs and pesticides.
<b>PO-2</b>	To gain dynamic skills and the ability to identify problems and solutions in daily life.
<b>PO-3</b>	Developing skills and ability to know about several fields of chemistry and research areas of Chemistry.
<b>PO-4</b>	Suggest the impact of educational programs in the field of Chemistry and explore the constructs and techniques.
<b>PO-5</b>	To become an expert in chemistry and settle the new chemistry approach to develop the ecology, green chemistry and solved the problems of environment, etc.

##### Program-specific outcomes for UG:

After successfully completion of the three-year degree program in chemistry students will be able to learn:

<b>B.Sc. Chemistry</b>	
<b>PSO-1 Inorganic chemistry</b>	To understand the atomic structure, periodic properties, bonding, periodic properties, the chemistry of transition series elements, various theories in coordination chemistry, organometallic chemistry, lanthanide, actinides elements, concepts of acids, bases, and non-aqueous solvents, and bioinorganic chemistry.
<b>PSO-2 Organic Chemistry</b>	Gain the knowledge of the basics of organic chemistry, the concept of aromaticity stereoisomers, aromaticity, electrophilic aromatic substitution reaction, properties of organic halides, alcohols, phenols, aldehydes, ketones, carboxylic acids, nitrogen compounds, heterocyclic compounds, organic synthesis via enolates, biomolecules, a basic principle of Infrared spectroscopy, UV-visible spectroscopy, and NMR spectroscopy.

<b>PSO-3 Physical Chemistry</b>	To understand the Basic Mathematical Concepts, gaseous state, liquid state, colloids, surface, solid state chemistry, chemical kinetics, catalysis, thermodynamics, chemical equilibrium and ionic equilibria, phase equilibrium, laws of photochemistry, quantum mechanics, physical spectroscopy, and electrochemistry.
<b>PSO-4 Laboratory courses</b>	Gain knowledge of qualitative and quantitative analysis of inorganic mixtures. gravimetric analysis, volumetric analysis, demonstration of laboratory glassware and types of equipment, qualitative analysis of elements (N, S, and halogens) and functional groups, preparation of organic compounds, surface tension measurements, viscosity measurement, and application of conductometry etc.

### Course Outcomes for UG

#### B.Sc. First Year Chemistry

**Course** After completion of these courses students will be able to learn:

**Outcomes** Title of the paper

<b>Paper-I Inorganic chemistry</b>	
<b>CO-1</b>	To understand the atomic structure and periodic properties of elements in the periodic table.
<b>CO-2</b>	To understand ionic bonding and its properties.
<b>CO-3</b>	To understand covalent bonding and its properties.
<b>CO-4</b>	To know the gradation properties of the alkali, alkaline earth metals, and p-block elements.
<b>CO-5</b>	To know the Chemical properties of the noble gases, the chemistry of xenon, structure, bonding in xenon compounds, and basic principles involved in the analysis of cations and anions and solubility products.
<b>Paper-II Organic chemistry</b>	
<b>CO-1</b>	To understand the Basics of organic chemistry.
<b>CO-2</b>	Knows the basic concept of optical isomerism and geometrical isomerism.
<b>CO-3</b>	Conformational analysis of alkanes and their relative stability and energy diagrams.
<b>CO-4</b>	Chemistry of aliphatic hydrocarbons and their Carbon-Carbon sigma ( $\sigma$ ) bonds and Carbon-Carbon Pi ( $\pi$ ) bonds.
<b>CO-5</b>	To study aromatic hydrocarbons. Explain the aromaticity and electrophilic aromatic substitution reaction.
<b>Paper-III Physical chemistry</b>	
<b>CO-1</b>	To understand the Basic Mathematical Concepts.
<b>CO-2</b>	To learn the concept of gaseous state chemistry.
<b>CO-3</b>	To study the basic concept of the liquid state, colloids, and surface chemistry.
<b>CO-4</b>	To learn the concept of solid state chemistry.
<b>CO-5</b>	CO-5 To know the basic concept of chemical kinetics and catalysis.
<b>Laboratory courses</b>	
<b>CO-1</b>	To identify acidic and basic radicals from the given inorganic mixture.
<b>CO-2</b>	Identify the qualitative analysis of elements (N, S, and halogens) and functional groups.
<b>CO-3</b>	To find the percentage composition of a mixture containing an unknown composition made of acetone and ethyl/methyl ketone by viscosity method and determination of the surface tension by drop number method.

## B.Sc. Second Year Chemistry

**Course** After completion of these courses students will be able to learn:

**Outcomes** Title of the paper

<b>Paper-I Inorganic chemistry</b>	
<b>CO-1</b>	To learn the chemistry of transition series elements.
<b>CO-2</b>	To understand oxidation, and reduction, Werner's theory, IUPAC nomenclature of coordination compounds, and isomerism in coordination compounds.
<b>CO-3</b>	To know the valence bond theory and the crystal field theory of coordination chemistry.
<b>CO-4</b>	To understand the chemistry of lanthanide and actinides elements.
<b>CO-5</b>	To know the concepts of acids, bases, and non-aqueous solvents.
<b>Paper-II Organic chemistry</b>	
<b>CO-1</b>	To learn the chemistry of organic halides.
<b>CO-2</b>	To understand the physical and chemical properties of alcohols and phenols.
<b>CO-3</b>	Nomenclature, structure, and reactivity of aldehydes and ketones.
<b>CO-4</b>	Preparation, Structure and bonding, Physical and chemical properties of carboxylic acids and carboxylic acid derivatives.
<b>CO-5</b>	Structure, preparation, reactivity, and physical properties of organic nitrogen compounds.
<b>Paper-III Physical chemistry</b>	
<b>CO-1</b>	To understand the important thermodynamics, laws of thermochemistry, zeroth, and first law of thermodynamics.
<b>CO-2</b>	To learn the second and third laws of thermodynamics.
<b>CO-3</b>	To know the chemical equilibrium and ionic equilibria.
<b>CO-4</b>	To know the basics and properties of phase equilibrium.
<b>CO-5</b>	To learn the characteristics and laws of photochemistry.
<b>Laboratory courses</b>	
<b>CO-1</b>	To learn the volumetric analysis to the determination of acetic acid in commercial vinegar using NaOH, alkali content-antacid tablet using HCl, estimation of the hardness of water by EDTA, and separate the green pigment from spinach leaves by chromatography.
<b>CO-2</b>	Identification of compounds in the given organic mixture and determine the solubility of benzoic acid at different temperatures and determine $\Delta H$ of the dissolution process.
<b>CO-3</b>	Determination of the transition temperature of the given substance by the thermometric method and determination of the strength of succinic acid on critical solution temperature in the given phenol water system.

## B.Sc. Third Year Chemistry

**Course** After completion of these courses students will be able to learn:

**Outcomes** Title of the paper

<b>Paper-I Inorganic chemistry</b>	
<b>CO-1</b>	To learn the metal-ligand bonding in transition metal complexes.
<b>CO-2</b>	To understand the magnetic properties of transition metal complexes.
<b>CO-3</b>	To know the organometallic chemistry and catalysis by organometallic compounds.
<b>CO-4</b>	To understand bioinorganic chemistry.
<b>CO-5</b>	To know the concepts of hard and soft acids, bases, and inorganic polymers.
<b>Paper-II Organic chemistry</b>	
<b>CO-1</b>	To learn the classification and nomenclature, structure, synthesis, and physical properties of heterocyclic compounds
<b>CO-2</b>	To understand the organometallic reagent and some important organic synthesis via enolates.
<b>CO-3</b>	Occurrence, classification, and biological importance of biomolecules.
<b>CO-4</b>	To learn the synthetic polymers and synthetic dyes.
<b>CO-5</b>	To learn the basic principle of Infrared spectroscopy, UV-visible spectroscopy, and NMR spectroscopy.
<b>Paper-III Physical chemistry</b>	
<b>CO-1</b>	To understand the importance of quantum mechanics.
<b>CO-2</b>	To learn the basics of physical spectroscopy.
<b>CO-3</b>	To understand the importance of electrochemistry.
<b>Laboratory courses</b>	
<b>CO-1</b>	To learn the gravimetric analysis of some inorganic compounds and inorganic preparations of complexes.
<b>CO-2</b>	To learn the preparation of organic compounds, qualitative analysis of an organic mixture.
<b>CO-3</b>	To learn the application of conductometry to determine the strength of the given acid using a standard alkali solution.

## M.Sc. Chemistry

### Program outcomes for PG:

After successfully completion of two-year master's program in chemistry students will be able to learn:

<b>M.Sc. Chemistry</b>	
<b>PO-1</b>	To develop an understanding the fundamental knowledge of the basic principles in various fields of Chemistry.
<b>PO-2</b>	To develop an understanding of the use of chemistry in daily life.
<b>PO-3</b>	Work effectively in a multi-disciplinary environment.
<b>PO-4</b>	To inculcate interest in research among the students.
<b>PO-5</b>	It would help students to Have developed their critical reasoning, judgment, and communication skills.
<b>PO-6</b>	Exhibit positive attitudes and values toward the discipline, so that they can contribute to an increasingly complex and dynamic society.
<b>PO-7</b>	It would help students to communicate scientific information clearly and concisely both orally and in Writing.
<b>PO-8</b>	It would help students to collaborate effectively on team-oriented projects in the field of Chemistry or other related fields.
<b>PO-9</b>	Augment the recent developments in the field of green and eco-friendly reactions, pharmaceutical, supramolecular, bioinorganic Chemistry, and relevant fields of research and development.

### Program-specific outcomes for PG:

After successfully completion of the two-year master's program in chemistry students will be able to learn:

<b>M.Sc. Chemistry</b>	
<b>PSO-1</b>	To study the concept of coordination chemistry, stability of the complexes, the stereochemistry of the complexes, structure, and bonding, theories of coordination complexes, and the chemistry of lanthanides, nanotechnology, and the use of inorganic compounds in biological chemistry.
<b>PSO-2</b>	To learn the concept of stereochemistry, conformation analysis, and their application in the determination of reaction mechanisms. To understand nucleophilic and electrophilic substitution, various types of reactions, rearrangements, and their synthetic utility.
<b>PSO-3</b>	To learn about chemical analysis, solvent extraction, separation technique, and spectroscopic technique.
<b>PSO-4</b>	Research methodology and computer application.
<b>PSO-5</b>	To learn about additives in drug analysis and synthesis.
<b>PSO-6</b>	To learn the various types of spectroscopy, thermodynamics, surface chemistry, and radiochemistry.
<b>PSO-7</b>	The aim of project work or fieldwork is to introduce students to research methodology in the subject and prepare them for pursuing research in theoretical experimental or computational areas of the subject.
<b>PSO-8</b>	To gain knowledge in the preparation, properties, characterization, and use of polymers.
<b>PSO-9</b>	To learn about the application of spectroscopy in various fields of inorganic chemistry.
<b>PSO-10</b>	To learn about the application of spectroscopy in various fields of organic chemistry.
<b>PSO-11</b>	To learn about the principle and application of photochemistry in various fields.
<b>PSO-12</b>	Intellectual property rights, human rights, and the environment
<b>PSO-13</b>	To know eco-friendly methods of synthesis. This helps in planning the synthesis of any type of organic compound with a revolution of green chemistry.
<b>PSO-14</b>	To learn about trace metal ions, enzymes, and medicinal bioinorganic chemistry.
<b>PSO-15</b>	To learn about earth, biosphere, and pollution and its control.
<b>PSO-16</b>	Study of solid states.
<b>PSO-17</b>	To learn about photochemistry, excited states, and ligand field photochemistry.
<b>PSO-18</b>	To learn the practical experience of different quantitative and qualitative analyses in inorganic and organic areas.
<b>PSO-19</b>	To gain practical knowledge of organic preparations and extraction of natural products.
<b>PSO-20</b>	To gain practical knowledge of several instrumental experiments.

## Course Outcomes for PG:

### M. Sc. Chemistry First Semester

**Course** After completion of these courses students will be able to learn:

**Outcomes** Title of the paper

<b>COURSE CODE - MSC101 CCC: Inorganic Chemistry-I</b>	
<b>CO-1</b>	To learn the stereochemistry and bonding in main group compounds, quantum mechanics.
<b>CO-2</b>	To understand the reaction mechanism of transition metal complexes.
<b>CO-3</b>	To learn the chemical bonding, metal-ligand bonding
<b>CO-4</b>	To learn the metal complexes
<b>CO-5</b>	To understand the crown ether complexes, isopoly, and heteropoly acids and salts, inorganic polymer
<b>COURSE CODE - MSC102 CCC: Organic Chemistry-I</b>	
<b>CO-1</b>	To learn stereochemistry and conformational analysis.
<b>CO-2</b>	To know the reaction intermediate and elimination reaction.
<b>CO-3</b>	To know the aliphatic nucleophilic substitution reaction and aliphatic electrophilic substitution reaction.
<b>CO-4</b>	To know the aromatic electrophilic substitution reaction.
<b>CO-5</b>	To learn the aromatic nucleophilic substitution reaction and determination of reaction mechanism.
<b>COURSE CODE - MSC103 CCC: Analytical Chemistry</b>	
<b>CO-1</b>	To learn the fundamentals of chemical analysis
<b>CO-2</b>	To know the solvent extraction and inorganic reagents
<b>CO-3</b>	To learn the ion exchange techniques
<b>CO-4</b>	To know the separation techniques
<b>CO-5</b>	To learn the spectroscopic techniques
<b>COURSE CODE-MS111 CCC: Inorganic and analytical chemistry lab</b>	
<b>CO-1</b>	To learn about qualitative and quantitative analysis of mixture. To identify acid Radicals from the given Inorganic mixture.
<b>CO-2</b>	Understand various methods for volumetric and gravimetric analysis of various chemical constituents.
<b>CO-3</b>	To learn some important preparation eg: synthesis of tris (Thio-Urea) copper(I) sulphate.
<b>CO-4</b>	To determine the turbidity of the given water sample by using turbiditymetry.
<b>COURSE CODE - MSCS01 OSC: Research methodology and computer application: basics</b>	
<b>CO-1</b>	Understand the concept and place of research in the concerned subject. Gets acquainted with various resources for research.
<b>CO-2</b>	Becomes familiar with various tools of research and sampling techniques.
<b>CO-3</b>	Gets conversant with methods of research.
<b>CO-4</b>	To learn about techniques of analyzing data and various research writings
<b>CO-5</b>	Gets acquainted with computer fundamentals and office software packages.
<b>COURSE CODE - MSCA04 ECC/CB: Medicinal chemistry</b>	
<b>CO-1</b>	To know the principles and concepts of green chemistry.

<b>CO-2</b>	Becomes familiar with pharmaceutical chemistry.
<b>CO-3</b>	To know about antibiotic drugs.
<b>CO-4</b>	To learn the synthesis of some drugs.
<b>CO-5</b>	Gets acquainted with drug design.

**M. Sc. Chemistry Second Semester Course** After completion of these courses students will be able to learn: **Outcomes** Title of the paper

<b>COURSE CODE - MSC201 CCC: Inorganic chemistry-II</b>	
<b>CO-1</b>	To know the electronic spectra and magnetic properties of transition metal complexes
<b>CO-2</b>	To learn about metal clusters, acid, and base
<b>CO-3</b>	To know the chemistry of lanthanides, actinides, and nanotechnology.
<b>CO-4</b>	To learn about bioinorganic chemistry in the biological system
<b>CO-5</b>	To know the coordination chemistry with stereochemical aspects.

<b>COURSE CODE - MSC202 CCC: Organic chemistry-II</b>	
<b>CO-1</b>	To learn the addition of carbon-carbon and carbon-hetero multiple bonds.
<b>CO-2</b>	To know the oxidations and reductions in organic chemistry.
<b>CO-3</b>	To learn about molecular rearrangements
<b>CO-4</b>	To learn about aromaticity and non-benzoids compounds.
<b>CO-5</b>	To know the selected organic reagent, organometallic compound, and catalysis.

<b>COURSE CODE - MSC203 CCC: Physical chemistry</b>	
<b>CO-1</b>	Gets acquainted with microwave spectroscopy and infrared spectroscopy.
<b>CO-2</b>	Understand the electronic spectroscopy of molecules and Raman spectroscopy.
<b>CO-3</b>	Understand thermodynamics, chemical kinetics, and surface chemistry.
<b>CO-4</b>	To know about radiochemistry.
<b>CO-5</b>	Applications of radioactivity.

<b>COURSE CODE - MSC211 CCC: Physical and organic chemistry lab</b>	
<b>CO-1</b>	To learn about surface tension to determine the composition of a given unknown solution by stalagmometer.
<b>CO-2</b>	To learn about Qualitative analysis to identify the functional group in a given organic mixture.

<b>COURSE CODE - MSC02 CCC: Social outreach and skill development</b>	
<b>CO-1</b>	The aim of project work or fieldwork.
<b>CO-2</b>	Introduce students to research methodology in the subject
<b>CO-3</b>	To prepare the student for pursuing research in theoretical experimental
<b>CO-4</b>	To prepare the student for computational areas of the subject.

<b>COURSE CODE - MSCB04 ECC/CB: Applied Chemistry</b>	
<b>CO-1</b>	To learn the Chemistry of water analysis.
<b>CO-2</b>	To know the analysis of fertilizers and pesticides.
<b>CO-3</b>	To learn the Chemistry of polymer, soap, and detergents.
<b>CO-4</b>	To know petroleum, gas fuels, and petrochemical analysis.
<b>CO-5</b>	To learn about the Chemistry of environmental pollutants and the chemistry of materials

### M. Sc. Chemistry Third Semester

**Course** After completion of these courses students will be able to learn:

**Outcomes** Title of the paper

<b>COURSE CODE - MSC301 CCC: Application of spectroscopy- Inorganic chemistry</b>	
<b>CO-1</b>	To learn the application of atomic absorption, atomic emission, plasma emission, flame emission, photoelectron spectroscopy and their application and Raman spectroscopy in inorganic spectroscopy.
<b>CO-2</b>	To learn the vibrational spectroscopy
<b>CO-3</b>	Understand the concept of electron spin resonance spectroscopy
<b>CO-4</b>	To learn nuclear magnetic resonance spectroscopy in the area of inorganic chemistry.
<b>CO-5</b>	To learn to understand the concept of Mossbauer spectroscopy
<b>COURSE CODE - MSC302 CCC: Application of spectroscopy- Organic chemistry</b>	
<b>CO-1</b>	To learn ultraviolet and visible spectroscopy.
<b>CO-2</b>	To learn mass spectrometry.
<b>CO-3</b>	Understand the concept of Infrared spectroscopy
<b>CO-4</b>	Understand the concept of Nuclear magnetic resonance spectroscopy
<b>CO-5</b>	To learn the carbon-13 NMR spectroscopy
<b>COURSE CODE - MSC303 CCC: Photochemistry and pericyclic reaction</b>	
<b>CO-1</b>	Understand the concept of the Basics of photochemistry
<b>CO-2</b>	To learn the photophysical processes in the excited state, the excited state of metal complexes.
<b>CO-3</b>	Understand the concept of Photochemistry of carbonyl compounds and alkenes
<b>CO-4</b>	To know the photorearrangement and reactions and application of photochemistry
<b>CO-5</b>	To learn the pericyclic reactions
<b>COURSE CODE - MSC311 CCC: Organic chemistry lab</b>	
<b>CO-1</b>	To gain practical knowledge of organic preparations.
<b>CO-2</b>	To learn the extraction of natural products eg: isolation of nicotine natural product from tobacco, isolation of caffeine from a given sample as tea, leaf or same natural.
<b>COURSE CODE - MSCS03 OSC: Intellectual property rights, human rights, and environment: basics</b>	
<b>CO-1</b>	To learn about the introduction, concepts, and historical overview of patents.
<b>CO-2</b>	To gain knowledge of copyright and their historical evolution.
<b>CO-3</b>	To learn about the rights and relation with life, liberty, equals, and the disabled.
<b>CO-4</b>	Understand the national human rights commission.
<b>CO-5</b>	To learn the right to the environment as a human right.
<b>COURSE CODE - MSCC02 ECC/CB: Green chemistry</b>	
<b>CO-1</b>	Principles and concept of green chemistry.
<b>CO-2</b>	Measuring and controlling environmental performance.
<b>CO-3</b>	Emerging green technology and alternative energy sources.
<b>CO-4</b>	To learn renewable resources.
<b>CO-5</b>	To know about industrial case studies.

### M. Sc. Chemistry Fourth Semester

**Course** After completion of these courses students will be able to learn:

**Outcomes** Title of the paper

<b>COURSE CODE - MSC401 CCC: Bioinorganic chemistry</b>	
<b>CO-1</b>	To learn about the essential and trace metal ions
<b>CO-2</b>	To gain knowledge of respiratory protein
<b>CO-3</b>	Understand the metalloenzymes (redox and non-redox) / metal ion transport and storage.
<b>CO-4</b>	To learn about the nitrogenase enzyme
<b>CO-5</b>	To learn about medicinal bioinorganic chemistry/chelation therapy.
<b>COURSE CODE - MSC402 CCC: Environmental chemistry</b>	
<b>CO-1</b>	To learn the atmospheric chemistry
<b>CO-2</b>	Understand the air pollution
<b>CO-3</b>	To learn the water pollution and oxygen-demanding wastes.
<b>CO-4</b>	Understand the soil analysis and chemical toxicology
<b>CO-5</b>	To learn the noise pollution and industrial pollution.
<b>COURSE CODE - MSC403 CCC: Solid state chemistry</b>	
<b>CO-1</b>	Understand the solid state reactions
<b>CO-2</b>	To learn the powder compact reaction and solid-state defects
<b>CO-3</b>	Understand the electronic properties and band theory
<b>CO-4</b>	To learn the solid electrolytes
<b>CO-5</b>	Understand the magnetic and optical properties of solids.
<b>COURSE CODE - MSC411 CCC: General chemistry lab</b>	
<b>CO-1</b>	To gain practical knowledge of instrumental experiments.
<b>CO-2</b>	To learn the quantitative estimation of the mixture.
<b>COURSE CODE - MSCS04 PRJ/SSC: Dissertation</b>	
<b>CO-1</b>	Describe a suitable field of career development.
<b>CO-2</b>	Elucidate research methods and literature review.
<b>CO-3</b>	Seriously analyze and evaluate the knowledge and understanding in the best area of study.
<b>CO-4</b>	Integrate theory and practice. Develop responses based on the evaluation and analysis undertaken.
<b>CO-5</b>	Apply knowledge and understanding about the agreed area of study.
<b>COURSE CODE - MSCD01 ECC/CB: Photo inorganic chemistry</b>	
<b>CO-1</b>	To learn the basics of photochemistry
<b>CO-2</b>	Understand the ligand field photochemistry
<b>CO-3</b>	To learn the properties of excited states.
<b>CO-4</b>	Understand the redox reactions by excited metal complexes
<b>CO-5</b>	To learn the metal complex sensitizers.



# PROGRAM OUTCOME AND COMMERCE COURSE OUTCOME (P.G)

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## PROGRAM OUTCOME

- After completing masters in commerce students are able to develop an ability to apply knowledge acquired in problem solving.
- Ability to work in teams with enhanced interpersonal skill and communication.
- The students can work in different domains like accounting, taxation, HRM, banking and administration.
- Ability to start their own business.
- Ability to work in MNCs as well as private and public companies.
- To develop team work, leadership and managerial and administrative skills.
- Students can go further for professional courses like CA/CS/CMA/CFA.

## COURSE OUTCOME

YEAR	PAPER	COURSE NAME	COURSE OUTCOME
M.COM I <sup>ST</sup> SEM	I	MANAGERIAL ECONOMICS	<ul style="list-style-type: none"> <li>• Students will comprehend the concept of managerial economics and their role and responsibilities</li> <li>• Students will learn the various fundamental principles of economics like opportunity cost principle, equi-marginal principle etc</li> <li>• Learners will comprehend the knowledge about the law of demand, how elasticity of demand works and about various production function theories like law of variable proportions, return to scale. They will understand the various stages of production and will able to understand economies and diseconomies of scale in production.</li> <li>• Students will able to understand how the choices are made by a rational consumer.</li> <li>• Student will comprehend the knowledge of indifference approach, revealed preference theory.</li> </ul>

	II	<b>MANAGEMENT ACCOUNTING</b>	<ul style="list-style-type: none"> <li>• Students will be able to understand the basic concepts and importance &amp; functions of Management Accounting.</li> <li>• Students will be able to differentiate between financial accounting, cost accounting and management accounting.</li> <li>• Students will comprehend the knowledge of various responsibility centres, its objectives and function.</li> <li>• Students will be able to understand, develop and apply the techniques of management accounting in the financial decision making in the business corporate.</li> <li>• Students will comprehend the knowledge of various types of budgeting like zero-base budgeting, performance budgeting, fixed and flexible budgeting etc</li> </ul>
	III	<b>RESEARCH METHODOLOGY</b>	<ul style="list-style-type: none"> <li>• Students will develop understanding on various kinds of research, objectives of doing research, research process, research designs and sampling.</li> <li>• Students will comprehend the basic knowledge on qualitative research techniques.</li> <li>• Students will gain the adequate knowledge on measurement &amp; scaling techniques as well as the quantitative data analysis. Students will gain basic awareness of data analysis-and hypothesis testing procedures</li> </ul>
	IV	<b>ADVANCED ACCOUNTING</b>	<ul style="list-style-type: none"> <li>• Students understand the nature and importance, practices of company accounts and to understand set up of accounts of companies.</li> <li>• Demonstrate a comprehensive understanding of the advanced issues in accounting for assets, liabilities and owners equity.</li> <li>• Record and illustrate the effects of a range of advanced financial accounting issues.</li> </ul>
	V	<b>PRINCIPLE OF MARKETING</b>	<ul style="list-style-type: none"> <li>• This course provides students with an overview of the marketing function with an emphasis on creating value through marketing, market research, consumer behaviour, pricing strategies, marketing channels and various methods of promotion.</li> </ul>
<b>M.COM 2<sup>ND</sup> SEM</b>	I	<b>BUSINESS ECONOMICS</b>	<ul style="list-style-type: none"> <li>• Students will acquire the knowledge about the types of cost and cost theory.</li> <li>• Students will learn the application of various laws and scale of production to maximize profit and scale of firm.</li> <li>• Students will comprehend the knowledge of identical Short Run and Long Run Equilibrium of a firm and industry and also about different market structure and various pricing techniques.</li> <li>• Students will learn various methods of pricing practices.</li> <li>• Students will learn the various stages of business cycle. They will also acquire the knowledge of inflation, its type and its effects on business.</li> </ul>

<b>M.COM- 3<sup>RD</sup> SEMESTER</b>	II	<b>ACCOUNTING FOR MANAGERIAL DECISION</b>	<ul style="list-style-type: none"> <li>• Students will acquire the skill of financial analysis and will learn to prepare cash flow and fund flow statements.</li> <li>• Students will comprehend the knowledge of ratio analysis and core concepts of business finance and its importance in managing a business.</li> <li>• Students will learn the concept of activity based costing, quality costing, target and life costing and value chain analysis.</li> <li>• Students will be able to understand, develop and apply the techniques of management accounting in the financial decision making in the business corporate.</li> </ul>
	III	<b>SPECIALIZED ACCOUNTING</b>	<ul style="list-style-type: none"> <li>• Student will learn to prepare bank balance sheet, royalty account, investment account etc</li> <li>• Students will be able to understand general insurance companies, double accounting system etc</li> </ul>
	IV	<b>ADVERTISING AND SALES MANAGEMENT</b>	<ul style="list-style-type: none"> <li>• Student will comprehend the knowledge of advertising media, role of advertising agencies.</li> <li>• They will learn how to select advertising agencies, make advertising budget, evaluate its effectiveness.</li> <li>• They will learn methods and procedure of personal selling, sales management etc.</li> </ul>
	I	<b>ADVANCED COST ACCOUNTING</b>	<ul style="list-style-type: none"> <li>• Students will acquire the basic knowledge on cost accounting concepts, elements and classification of cost and overheads, levels of material control, purchase, stores control, EOQ, methods of valuing material issue.</li> <li>• Students will learn to classify costs and will be able to prepare cost sheet for manufacturing and trading concerns.</li> <li>• Students will be able to prepare process accounts and statement of joint products and by-products. They would also recall and discuss various concepts related to Process Costing.</li> <li>• Students will be able to evaluate the process losses, wastage, scrap, normal and abnormal losses and Reconcile the profits of Financial and Cost Accounting, Treatment of profits in Contract costing</li> </ul>

<b>M.COM 4<sup>TH</sup> SEM</b>	II	<b>INTERNATIONAL MARKETING</b>	<ul style="list-style-type: none"> <li>• Students will be able to introduce themselves to the marketing opportunities available outside their home country.</li> <li>• Students will develop basic understanding of international marketing concepts, theories, principles, and terminology.</li> <li>• Students will be able to demonstrate an awareness and knowledge of the impact of environmental factors (cultural, economic, institutional, legal and political) on international marketing activities.</li> <li>• They will be capable of identifying international customers through conducting marketing research and developing cross-border segmentation and positioning strategies.</li> <li>• Students will be capable of developing a global marketing strategy by applying the basic concepts of product, pricing, promotion, and channels of distribution in international settings.</li> <li>• Students will learn the trends of foreign trade in India, various export procedures, documentation and EXIM policy in India</li> </ul>
	III	<b>MANAGEMENT CONCEPT</b>	<ul style="list-style-type: none"> <li>• By studying this course the skill of managerial abilities are developed in the students.</li> <li>• Develops the ability to motivate how tasks can be done.</li> </ul>
	IV	<b>ORGANIZATION BEHAVIOUR</b>	<ul style="list-style-type: none"> <li>• Students understand consumer behaviour science</li> <li>• Students understand the changing role of product, marketer and consumer</li> <li>• They understand consumer protection and business ethics</li> </ul>
	I	<b>CONSUMER BEHAVIOUR</b>	<ul style="list-style-type: none"> <li>• Acquire the basic knowledge of consumer behaviour, culture, social class, consumer motivation, consumerism and consumer protection</li> <li>• Understand the need for studying consumer behaviour, consumer attitude, objectives of culture, characteristic feature of social class, consumer perception, consumer decision making and the importance of consumerism.</li> <li>• Application of consumer behaviour in marketing, consumer learning, consumer decision making and redressal of consumer disputes.</li> <li>• Analyse the consumer behaviour models, involvement of consumer decision making and reasons for slow growth of consumer movement.</li> <li>• Familiarize the process of consumer research, decision making process and legislation for consumer protection.</li> <li>• Gain confidence in creating consumer awareness in different categories of social class.</li> </ul>

	II	<b>INVESTMENT MANAGEMENT</b>	<ul style="list-style-type: none"> <li>• Students will acquire the basic knowledge of financial markets.</li> <li>• They will understand the difference between investment, gambling and speculation</li> <li>• They will gain the knowledge of valuation of securities like equity shares, preference shares, debentures and bonds</li> </ul>
	III	<b>MARKETING RESEARCH</b>	<ul style="list-style-type: none"> <li>• Students will acquire the basic knowledge of marketing research like marketing research process, problems, MIS system, data collection methods, techniques etc.</li> <li>• They will learn to analyse the data and prepare report.</li> <li>• They will gain the knowledge of new product research and how marketing research in India is done.</li> </ul>
	IV	<b>CORPORATE LEGAL FRAMEWORK</b>	<ul style="list-style-type: none"> <li>• Students will comprehend the knowledge of negotiable instruments act 1881, MRTP act 1969, SEBI act 1992 and will acquire the knowledge of company act 2013.</li> </ul>

## **PROGRAM OUTCOME (BCA):**

At the end of the three year BCA program the students will be able to:

- Understand, analyze and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer based system.
- Develop software projects in various languages as per the demand of the market.
- Develop live software projects and will be capable of working in IT companies.
- Work in the IT sector as system engineer, software tester, junior programmer, web developer, system administrator, software developer etc.
- Apply standard software engineering practices and strategies in software project development using open source programming environment to deliver a quality of product for business success.

## **PROGRAM SPECIFIC OUTCOMES**

- Equip themselves to potentially rich & employable field of computer applications.
- Pursue higher studies in the area of Computer Science/Applications.
- Take up self-employment in Indian & global software market.
- Meet the requirements of the Industrial standards.

## **COURSE OUTCOME (BCA) :**

<b>BCA PART-ONE (211)</b>			
<b>S.N O.</b>	<b>Course Code</b>	<b>Course Name</b>	<b>Course Outcome</b>
1.	BCA101	I. Discrete Mathematics	At the end of this course, the students will be able to: <ul style="list-style-type: none"><li>• Construct simple mathematical proofs and possess the ability to verify them.</li><li>• Have substantial experience to comprehend formal logical arguments.</li><li>• Be skillful in expressing mathematical properties formally via the formal language of propositional logic and predicate logic.</li><li>• Specify and manipulate basic mathematical objects such as sets, functions, relations and Graphs and will also be able to verify simple mathematical properties that these objects possess.</li></ul>

2.	BCA101	II. Calculus & Statistical Analysis	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Verify the value of the limit of a function at a point using the definition of the limit.</li> <li>• Understand the type of variable and useful in the development of the function.</li> <li>• Know the basic idea of Permutations and Combinations, and Probability Concepts.</li> <li>• Evaluate the probabilities and conditional probabilities.</li> <li>• Understand the consequences of the Intermediate value theorem for continuous function</li> </ul>
3.	BCA 101	III. Introductory Electronics	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the fundamental concepts and techniques used in digital electronics.</li> <li>• Understand concept of Semiconductor and Classify different semiconductors.</li> <li>• Understand and examine the structure of various number systems and perform the conversion among different number systems.</li> <li>• Illustrate reduction of logical expressions using Boolean algebra, k-map and tabulation method and implement the functions using logic gates</li> <li>• Understand, analyze and design various combinational and sequential circuits.</li> </ul>
4.	BCA 102	Fundamentals of IT & O.S.	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Describe the history and types of computers and various input/output devices.</li> <li>• Understand the concept of memory and its types.</li> <li>• Identify categories of system software and application software.</li> <li>• Understand the concept of MS DOS with DOS commands.</li> <li>• Understand the concept of GUI and various Windows OS.</li> </ul>

5.	BCA 103	Programming in 'C' Language	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand The fundamental programming concepts and methodologies which are essential to building good C programs.</li> <li>• Develop programming skill and learn how to implement a new software.</li> <li>• Develop programming and logical concepts which helps to build up source code of concern programming language.</li> <li>• Understand the concept of programming like Compilation, Debugging, Executing, Linking and Loading.</li> <li>• Write simple C programs using programming concepts.</li> </ul>
6.	BCA 104	Introduction to PC Software & Internet Applications	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the MS Word and Create a new Word document and formatting a document using MS-WORD.</li> <li>• Understand the MS Excel with creating sheets, calculation in cell and prepare charts.</li> <li>• Understand the MS Power point and Create slide show presentation, design templates, and animation effects.</li> <li>• Use Microsoft Office programs to create personal, academic and business documents following current professional and/or industry standards.</li> <li>• Understand introduction to HTML and Designing Web Page using MS FrontPage.</li> <li>• Understand about Animations and Graphics, 2D/3D Animation, create a new movie and work in Photoshop.</li> </ul>
7.	BCA 105A	Programming in Visual Basic	<p>At the end of this course:</p> <ul style="list-style-type: none"> <li>• This course provides the skills and knowledge required to use essential features and capabilities of VISUAL BASIC.</li> <li>• A programming system used to produce Graphical User Interfaces and applications in a Windows environment.</li> <li>• It includes basic programming concepts, problem solving, programming logic, and the design of event-driven programming, error handling and file handling.</li> </ul>

8.	BCA 105B	Practical Based on course 105A	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Design, create, build, and debug Visual Basic applications.</li> <li>• Implement syntax rules in Visual Basic programs.</li> <li>• Write and apply decision structures for determining different operations.</li> <li>• Write and apply loop structures to perform repetitive tasks.</li> <li>• Write Windows applications using forms, controls and events.</li> </ul>
9.	BCA 106A	English	
10.	BCA 106B	Hindi	
11.	BCA 107	Practical Based on course 103	<p>At the end of this course, the Students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the fundamental programming concepts and methodologies which are essential to create good C programs.</li> <li>• To practice the fundamental programming methodologies in the C programming language via laboratory experiences.</li> <li>• Write, compile and debug programs in C Language.</li> <li>• Create programs involving decision structures, loops, strings, functions, structures and pointers.</li> <li>• Code, test, and implement a well-structured, robust computer program using the C programming language.</li> </ul>
12	BCA 108	Practical Based on course 104	<p>At the end of this course, Students will be able to:</p> <ul style="list-style-type: none"> <li>• Learn Modern office activities and their software requirements.</li> <li>• Create a new Word document and formatting a document using MS-WORD.</li> <li>• Create an electronic spreadsheet using MS-Excel, familiarize oneself with Excel's basic and advance features.</li> <li>• Create a slide show presentation and explore the Microsoft Office PowerPoint environment.</li> <li>• Demonstrate an ability to create basic Web pages with HTML.</li> </ul>

13	BCA 109	Bridge Course	<p>At the end of course, Students will be able to:</p> <ul style="list-style-type: none"> <li>Analyze and solve problems based on Matrix &amp; determinants.</li> <li>Understand the basic knowledge of Algebra, Trigonometry and Geometry.</li> <li>Understand Statistics and its applications and also will be able to calculate Mean, median and mode.</li> </ul>
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**BCA PART-TWO (212)**

14	BCA201	I. Numerical Analysis	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>Understand and apply basic numerical methods and the theory behind them, related to interpolation and approximation, numerical integration, and solving first order ordinary differential equations.</li> <li>Obtaining numerical solutions to problems of mathematics.</li> <li>Describing and understanding of the several errors and approximation in numerical methods.</li> <li>The understanding of several available Solutions of Equations in One Variable.</li> <li>The explaining and understanding of the several available methods to Solve the simultaneous equations.</li> </ul>
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	BCA201	II. Differentiation & Integration	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>Understand Rolle's theorem, mean value theorem of Lagrange and Cauchy, an application of Taylor's theorem.</li> <li>Locate the x and y intercepts, any undefined points, and any asymptotes.</li> <li>Determine the integration like integration of functions and integration of functions of two and three variables.</li> </ul>
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15	BCA201	III. Data Structure	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Use different types of data structures, operations and algorithms.</li> <li>• Implement appropriate sorting/searching technique for any given problem.</li> <li>• Use stack, Queue, Lists, Trees and Graphs in problem solving.</li> <li>• Find suitable data structure during application development/ Problem Solving.</li> </ul>
16	BCA202	DBMS (oracle,SQL)	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Learn about Database Concepts, Database Languages, Architecture, various Users, Data Models and Data Management which helps them to interact with various Databases.</li> <li>• Develop various Tables and Databases which helps them to develop new Software.</li> </ul>
			<ul style="list-style-type: none"> <li>• Practice various SQL commands which help them to generate new relationships among various Tables and Databases which are useful for Software Development.</li> <li>• Familiar about RDBMS Software like Oracle and SQL Server which are used as Backend for Software Development.</li> </ul>
17	BCA203	Programming in C++ & Visual C++	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Develop programming skill and learn how to implement a new software.</li> <li>• Develop programming and logical concepts which helps to build up source code of concern programming language.</li> <li>• Write simple C++ programs using programming concepts.</li> <li>• Familiar about procedure oriented and object oriented concepts.</li> <li>• Develop new applications with C++ which helps them to switch in Software Industry.</li> <li>• Demonstrate proficiency in writing structured programs using the Visual C++ programming language to resolve problems.</li> </ul>

18	BCA204	Computer Networking & Internet Technology	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the basic computer network technology.</li> <li>• Understand and explain the Data Communications System and its components.</li> <li>• Understand the layers of the OSI model and TCP/IP and identify the different types of network topologies and protocols.</li> <li>• Create applications using HTML, CSS and Java Script.</li> <li>• Understand fundamental tools and technologies for web design and how Web pages are designed and created.</li> </ul>
19	BCA205 A	Shell Programming in Linux/Unix	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the basic commands of linux operating system and can write shell scripts.</li> <li>• To learn the important Linux/UNIX library functions and system calls.</li> <li>• To understand the inner workings of UNIX-like operating systems.</li> <li>• Understand the concept of GNOME and KDE desktop environment.</li> </ul>
20	BCA205 B	Practical Based on course 205A	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the basic commands of linux operating system and can write shell scripts.</li> <li>• Mastery of the basic LINUX/UNIX process structure and the LINUX/UNIX file system.</li> <li>• Understand all the LINUX/UNIX utilities, and implement shell scripting.</li> <li>• Mastery of at least one Shell scripting language.</li> </ul>
21	BCA206 A	Principal of Management	<p>Upon completion of the course, students will be able to:</p> <ul style="list-style-type: none"> <li>• Have clear understanding of managerial functions like planning and have some basic knowledge on international aspect of management.</li> <li>• understand the planning process in the organization.</li> <li>• understand the concept of organization.</li> <li>• Demonstrate the ability to directing, leadership and communicate effectively.</li> </ul>
22	BCA206 B	Foundation Course	

23	BCA207	Practical Based on course 202	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Students get practical knowledge on designing and creating relational database systems.</li> <li>• Understand various advanced queries execution such as relational constraints, joins, set operations, aggregate functions, trigger, views and embedded SQL.</li> <li>• Use of various software to design and build ER Diagrams, UML, Flow chart for related database systems.</li> <li>• Students will be able to design and implement database applications on their own.</li> </ul>
24	BCA208	Practical Based on course 203	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the fundamental programming concepts and methodologies which are essential to create good C++ programs.</li> <li>• Code, test, and implement a well-structured, robust computer program using the C++ programming language.</li> </ul>
			<ul style="list-style-type: none"> <li>• Write reusable modules (collections of functions).</li> <li>• Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing.</li> <li>• Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms.</li> </ul>
<b>BCA PART-THREE (213)</b>			
25	BCA301	I. Calculus & Geometry	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> understand the relationship between the derivative and the definite integral as expressed in both parts of the Fundamental Theorem of Calculus.</li> <li><input type="checkbox"/> Learn to calculate maxima and minima of functions of two and three variables.</li> <li><input type="checkbox"/> understand geometrical terminology for cone, cylinder, straight lines, conic and circles.</li> </ul>

26	BCA301	II. Differential Equation & Fourier Series	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Student will be able to solve first order differential equations utilizing the standard techniques for linear, homogeneous differential equation.</li> <li>• solve linear, partial differential equations of both first.</li> <li>• understand purpose and operation of Fourier series and Transformation.</li> </ul>
27	BCA301	III. Computer System Architecture	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Thoroughly learned about the basic building blocks and computer design in computer architecture and learned about the various components of computer architecture.</li> <li>• Logically observed and experienced about various aspects of logic gates.</li> <li>• Learn number system and various types of micro-operations of processor.</li> <li>• Ability to understand the concept of I/O organization.</li> <li>• Categorize memory organization and explain the function of each element of a memory hierarchy.</li> </ul>
28	BCA302	Java	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Develop programming skill and learn how to implement new Platform Independent software.</li> <li><input type="checkbox"/> Develop new Packages which help them to develop new application software and Utility Software.</li> <li><input type="checkbox"/> Develop new Online Software and Internet Games with the help of Applet and AWT Packages.</li> <li><input type="checkbox"/> Learn about TCP/IP Client and Server Sockets which helps them to develop Networking Software.</li> <li><input type="checkbox"/> Familiar about Applet, Thread and Servlet Life Cycle which helps them to develop value added services for Internet Users.</li> </ul>

29	BCA303	Operating System	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand various functions, structures and history of operating systems and should be able to specify objectives of modern operating systems and describe how operating systems have evolved over time.</li> <li>• Understand various process management concepts including scheduling, synchronization, and deadlocks.</li> <li>• Have a basic knowledge about multithreading.</li> <li>• Understand concepts of memory management including virtual memory.</li> </ul>
30	BCA304	Software Engineering	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Basic knowledge and understanding of the analysis and design of complex systems.</li> <li><input type="checkbox"/> Choose appropriate process model depending on the user requirements.</li> <li><input type="checkbox"/> perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance.</li> <li><input type="checkbox"/> Work as an effective member or leader of software engineering teams.</li> <li><input type="checkbox"/> Know various processes used in all the phases of the product.</li> <li><input type="checkbox"/> Apply the knowledge, techniques, and skills in the development of a software product.</li> </ul>
31	BCA305 A	Multimedia Tools and Applications	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Define multimedia to potential clients.</li> </ul>
			<ul style="list-style-type: none"> <li><input type="checkbox"/> Identify and describe the function of the general skill sets in the multimedia industry.</li> <li><input type="checkbox"/> Understand about the text, image, sound, animation, video and implement it using appropriate multimedia tools.</li> <li><input type="checkbox"/> Identify the basic hardware and software requirements for multimedia development and playback.</li> </ul>

32	BCA305 B	Practical Based on Course 305A	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Identify and describe the function of the general skill sets in the multimedia industry.</li> <li>• Identify the basic hardware and software requirements for multimedia development and playback.</li> <li>• Understand about the text, image, sound, animation, video and implement it using appropriate multimedia tools.</li> <li>• Explore the fundamentals and underlying theories of Multimedia and animation to design and develop 2D/3D animations, film-making, visual effects for the creative media.</li> </ul>
33	BCA306 A	Financial Accountancy	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Basic understanding of concepts of meaning and nature accounting principles of financial statement.</li> <li><input type="checkbox"/> Preparation of financial statement: a synoptic view-profit and loss account, balance sheet.</li> <li><input type="checkbox"/> Understand Ratio analysis (liquidity, solvency, profitability, efficiency).</li> <li><input type="checkbox"/> Preparation of various types of budget.</li> </ul>
34	BCA306 B	Foundation Course	
35	BCA307	Practical Based on Course 302	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Develop front end application using front end technologies.</li> <li>• Demonstrate the principles of object-oriented programming.</li> <li>• Create multi-threaded programs and event handling mechanisms.</li> </ul>
36	BCA308	Project	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Demonstrate an ability to work in teams, manage and conduct.</li> </ul>

			<ul style="list-style-type: none"> <li>• Students are trained to meet the requirements of the Industry.</li> <li>• Discover potential research areas in the field of IT.</li> <li>• It makes the student confident in designing an Online Project with advanced technologies on their choice.</li> </ul>
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### **PROGRAM OUTCOME (PGDCA):**

The program focuses on the skill enhancement of students in which following skill component are enhanced.

- This course provides job opportunity in the field where computer training is essential.
- student will able to learn the latest trends in various subjects of computer & information technology.
- They can start their own business in web development and software development..
- It will equip the students with skills required for designing, developing applications in Information Technology.
- Students can also pursue the career of computer operators.
- To enhance their career opportunities in the software development and maintenance sector in the state.
- Students are eligible to pursue MCA (Lateral Entry) and apply for jobs in various multinational companies, industries, banks.

### **Program Specific Outcomes**

- Students become eligible to pursue MCA and M.Sc. in Information Technology.
- They can also join MBA.

### **Course Outcomes**

- The students acquire knowledge about basics and fundamentals of information technology, basic programming concepts of procedure oriented and object oriented languages (C and Java), fundamentals of web programming (HTML, CSS, Javascript ), DataBase management system, computer networking and computer based accounting information.
- Students learn to develop and debug codes in different languages.
- Students are able to design web based applications using PHP, HTML, DHTML, CSS and Javascript.

**GOVT RBR NES PG COLLEGE ,JASHPUR  
DEPARTMENT OF ECONOMICS**

**Programme Outcomes**

**Undergraduate Programme**

**At the end of UG programme, students will be able to:**

**Critical thinking:** Identify and analyze current issues and trends in higher education and come-up with intellectual, organizational, and personal ideas and decisions from different perspectives

**Effective citizenship:** Understand the administration of college, including the roles and functions of the major administrative units and develop ability to act with an informed awareness of issues and participate in civic life activities for comprehensive development

**Effective communication:** Communicate clearly and effectively using the professional standards of their fields

**Environment and sustainability:** Understand the issues of environmental contexts and demonstrate the knowledge for sustainable development

**Ethics:** Express legal and ethical issues and understand the moral dimensions of decisions and responsibilities

**Life-long learning:** Gain ability to engage in independent and life-long learning with socio-technological changes

**Post Graduate Programme**

**At the end of PG programme, students will be able to:**

**Disciplinary knowledge:** Accomplish profound expertise in discipline and increase ability to function in multidisciplinary domains

**Effective citizenship:** Investigate individual, institutional and national values and understand the impact of cultural variations and technological advancement, innovations and applications

**Leadership qualities:** Capability of working as a team and setting direction and using management skills to achieve the Vision and Mission

**Research aptitude:** Manage ability to exercise research intelligence in investigations/ innovations and to communicate research findings in a clear, concise manner

**Ethical awareness:** Gain knowledge of ethical principles and commit to professional ethics

**Self-directed learning and digital learning:** Ability to work independently, identify appropriate resources required for projects, manage projects, enable learning through ICT tools and integrate self-directed learning, digital learning with life-long learning Ph.D. Programme

**At the end of Ph.D. programme, students will be able to:**

**Scientific Reasoning:** Critically apply theories, methodologies, and knowledge to address fundamental questions in their primary area of study

**Problem solving:** Formulate and write research grant proposals with effective questions, hypotheses and experimental designs

**Analytical thinking:** Develop the inductive and deductive reasoning skills to drive research projects productively and independently

Program Specific Outcome Graduation

**B.A. Economics**

Students learn the basic concepts of micro economics and macro economics which makes the base of all the economic studies. They get to learn about the Indian economy, different patterns of consumption ,production and distribution in the economy. Students also learn about the different levels and status of agricultural economics, poverty and employment in the country.they get to learn about the policies and programmes of the government for the welfare of the society through welfare economics concept.papers like environmental economics which add value to their education .they get to know about the different concepts related to the environment and the importance of sustainable development.

**Subject Combination Outcome Graduation:**

**1) Economics, Hindi Literature, Geography**

The combination of above subject is very important. In Economics students learn the basic concepts of micro economics and macro economics which makes the base of all the economic studies. They get to learn about the Indian economy, different patterns of consumption ,production and distribution in the economy. Students also learn about the different levels and status of agricultural economics, poverty and employment in the country. They get to learn about the policies and programmes of the government for the welfare of the society through welfare economics concept. Papers like environmental economics which add value to their education. they get to know about the different concepts related to the environment and the importance of sustainable development. Geography gives them opportunity to learn about the geographical structure of the country and the world. They get to know about the availability of the natural resources in difeerent parts and hence know the reasons for their economic strength.a student who learns both the subject can easily relate the geography of the nation to its economy. The knowledge of hindi helps the student to make a strong base to communicate and share their knowledge with the world.

**2) Economics, Hindi Literature, Sociology**

THE COMBINATION OF ABOVE SUBJECT IS VERY IMPORTANT. IN ECONOMICS STUDENTS LEARN THE

BASICconcepts of micro economics and macroeconomics which makes the base of all the economic studies. They get to learn about the Indian economy, different patterns of consumption ,production and distribution in the economy. Students also learn about the different levels and status of agricultural economics, poverty and employment in the

country. They get to learn about the policies and programmes of the government for the welfare of the society through welfare economics concept. Papers like environmental economics which add value to their education. they get to know about the different concepts related to the environment and the importance of sustainable development. Sociology is the study of the society and its social institutions. This subject gives them opportunity to learn about the social structure of the country and the world. They get to know about the behavior of the individual and the people and hence know the reasons for their strength and capacity and hence the economic strength of the country as a human capital. a student who learns both the subject can easily relate the society of the nation to its economy. The knowledge of hindi helps the student to make a strong base to communicate and share their knowledge with the world.

### **3) Economics, Hindi Literature, Political Science**

The combination of above subject is very important. In Economics students learn the basic concepts of micro economics and macro economics which makes the base of all the economic studies. They get to learn about the Indian economy, different patterns of consumption, production and distribution in the economy. Students also learn about the different levels and status of agricultural economics, poverty and employment in the country. They get to learn about the policies and programmes of the government for the welfare of the society through welfare economics concept. Papers like environmental economics which add value to their education. they get to know about the different concepts related to the environment and the importance of sustainable development. Political Science is the study of political structure of the country and the different parts of the world. Any economy is stable when its political situation is stable so the political understanding gives them opportunity to learn about the political structure of the country and the world. They get to know about the reasons behind the political stability and instability in different parts and hence know the reasons for their economic strength. a student who learns both the subject can easily relate the political situation of the nation to its economy. The knowledge of Hindi helps the student to make a strong base to communicate and share their knowledge with the world.

### **4) Economics, Political Science and Sociology**

The combination of above subject is very important. In Economics students learn the basic concepts of micro economics and macro economics which makes the base of all the economic studies. They get to learn about the Indian economy, different patterns of consumption ,production and distribution in the economy. Students also learn about the different levels and status of agricultural economics, poverty and employment in the country. They get to learn about the policies and programmes of the government for the welfare of the society through welfare economics concept. Papers like environmental economics which add value to their education. they get to know about the different concepts related to the environment and the importance of sustainable development. Political Science is the study of political structure of the country and the different parts of the world. Any economy is stable when its political situation is stable so the political understanding gives them opportunity to learn about the political structure of the country and the world. They get to know about the reasons behind the political stability and instability in different parts and hence know the reasons for their economic strength. A student who learns both the subject can easily relate the political situation of the nation to its economy. Sociology is the study of the society and its social institutions. This subject gives them opportunity to learn about the

social structure of the country and the world. They get to know about the behavior of the individual and the people and hence know the reasons for their strength and capacity and hence the economic strength of the country as a human capital. a student who learns both the subject can easily relate the society of the nation to its economy. A combination of all the three subjects gives a complete learning of the economy of the country with its geographical structure and social needs.

#### **5) Economics, Political Science and Geography.**

The combination of above subject is very important. In Economics students learn the basic concepts of micro economics and macro economics which makes the base of all the economic studies. They get to learn about the Indian economy, different patterns of consumption ,production and distribution in the economy. Students also learn about the different levels and status of agricultural economics, poverty and employment in the country. They get to learn about the policies and programmes of the government for the welfare of the society through welfare economics concept. Papers like environmental economics which add value to their education. they get to know about the different concepts related to the environment and the importance of sustainable development. Political Science is the study of political structure of the country and the different parts of the world. Any economy is stable when its political situation is stable so the political understanding gives them opportunity to learn about the political structure of the country and the world. They get to know about the reasons behind the political stability and instability in different parts and hence know the reasons for their economic strength. a student who learns both the subject can easily relate the political situation of the nation to its economy. Geography gives them opportunity to learn about the geographical structure of the country and the world. They get to know about the availability of the natural resources in different parts and hence know the reasons for their economic strength a student who learns both the subject can easily relate the geography of the nation to its economy. The knowledge of Hindi helps the student to make a strong base to communicate and share their knowledge with the world. A combination of all the three subjects gives a complete learning of the economy of the country with its geographical and political structure.

Course outcome- students learn the basic concept of micro Economics and structure of Indian Economy and their characteristics Which builds the foundation for economic studies in their higher education and research as well as for competitive examinations.

#### **BA (FIRST YEAR)**

First Paper – Micro Economics

##### **COURSE LEVEL LEARNING OUTCOMES:**

At the end of the course the students will be able to:

1. Analyze the decisions taken by firms and households due to scarcity of resources
- 2 Calculate the elasticity of demand and supply.
- 3 Describe the laws and various concepts in production and costs.
4. Evaluate the various microeconomic theories

5. Examine the causes of scarcity.

#### Second Paper-Indian Economy

##### Course Learning Outcomes;

At the end of the course the students will be able to:

1. Differentiate between economic growth and economic development.
2. Classify the indices of economic development.
3. Identify the demographic features of the Indian economy.
4. Assess the causes and measures of poverty inequalities and unemployment.
5. Analyze the economic and social issues of the Indian economy

#### **B A (SECOND YEAR)**

##### First paper- Macro Economics

##### COURSE LEVEL LEARNING OUTCOMES:

At the end of the course the students will be able to:

1. Explain National income aggregates
2. Examine the role of money in modern economy
3. Evaluate the role of Government expenditure in the economy
4. Analyze the role of foreign sector.

##### Second paper- Money, Banking And Public finance

##### Course level learning outcomes ;

At the end of the course the students will be able to:

- 1- Identify the items of current and capital account of government budget.
- 2- Evaluate the objectives of fiscal policy.
- 3- Explain the tools of fiscal policy.
- 4- Differentiate between the balanced and unbalanced budget.
- 5 -theories of taxation.

#### **B A (THIRD YEAR)**

##### First paper- Economics of Growth, development and environment

- 1- Theories of Economic Growth
- 2- Development Vs destruction
- 3- Engine of development
- 4- Sustainable development
- 5- Theories of Environment

##### Second paper- Basics Of statistics

- 1- Concept of basic statistics
- 2- Measures of central tendency
- 3- Tools and techniques of statistical analysis
- 4- Prepares base for higher studies and research in own discipline as well as inter disciplinary

## **Course Outcome:**

### **Micro Economic Analysis :**

The outcome of the paper is to understand the micro economic units of the economy. it is to understand the behavior of the individual and the individual firm.it makes the student understand the consumer behavior , a producer's behavior , cost theory , helps to understand different types of market and theory of distribution.

### **Macroeconomics :**

The outcome of this course is that it helps to understand the macroeconomic state of the economy. it helps to understand the aggregate demand, employment and the national income or GDP of the economy.it helps to understand the development and growth of an economy.

### **Public Economics :**

This paper basically deals with the government participation in the economy with government expenditure and revenue, taxation and public debt.

### **International Economics :**

The outcome of this course is that it helps to understand the foreign trade of the country. Its helps students to understand the import and export concept necessary for the Indian economy.

### **Agricultural Economics :**

This paper helps to understand the agricultural development taking place in india .it covers the progress of the agriculture since independence and also focuses on the analysis of agricultural research.

### **Environmental Economics :**

It is basically a value-added paper which focuses on the concept of environment and its relation with economics. It gives an insight about the taxes and discounts made by the government for the production of different goods in the country to control or minimize the pollution. it helps to understand the different environmental values and costs related to it. It helps to understand the need of environmental conservation and protection in India and Globally. The paper focuses on the Resources available in any country and its optimum utilization for the economic growth with minimum environmental degradation. The Course adds a value as well as a moral value to the students to save our environment with sustainable development.

### **Indian Economy :**

This course focus on all the past and current issues of Indian economy. Whether it is agriculture or the industries of the policies of government. It gives all the data related to the national income and the growth of an economy.

### **Research methodology and computer application:**

The course will help the learners to understand the base of computer applications. It will develop the skill to utilize various software needed for the research work. On completion of this course, the learners would be able to carry out/conduct independent research pertaining to any specific economic issue; find, evaluate and employ social research materials and theoretical approaches of reflections on the

economic issues, identify issues of research in Economics and appropriate methodologies for the execution of research in the chosen area, design a research, justifying use of various methods/tools to carry out the same, collect, analyses and interpret both qualitative and quantitative data and an understanding on ethical issues in research.

#### **Environmental and Forest Laws:**

Students will learn to explain the role of law, policy and institutions in the conservation and management of natural resources as well as pollution control. To introduce the laws and policies both at the national and international level relating to environment. To equip the students with the skills needed for interpreting laws, policies and judicial decisions. On completion of this course, the learners would also be able to strengthen their base regarding the ethical issues and understand basics of environment protection, sustainable development and living in harmony with nature by adopting green economy and policies.

#### **Intellectual property Rights, human Rights And Environment:**

After thorough study of the course, the learners will be able to understand the basic aspect of human rights. It will be helpful for the learners to be an alert and aware citizen. After thorough study of the course, the learners will be able to understand the India's obligation to international human rights instruments. It will be help for the learners in UGC NET examination and other competitive examinations. After the completion of the course, the analytical skill of learners will be developed for relating the law with social life.

Students will recognize the importance of IP and to educate the pupils on basic concepts of Intellectual Property Rights. They will identify the significance of practice and procedure of Patents. To make the students to understand the statutory provisions of different forms of IPRs in simple forms. . To learn the procedure of obtaining Patents, Copyrights, Trade Marks & Industrial design . To enable the students to keep their IP rights alive.

#### **Tribal studies :**

This course aims to help students to understand tribal society and its distinct cultural characteristics. It also intends to enhance the knowledge about current scenario of tribal society and its changing culture. This course aims to help students to identify & understand the major issues in tribal development such as socio-political, economic, cultural & infrastructural.

#### **Social outreach and Skill Development;**

The outreach programs developed and enhanced the subject's academic skills, leadership qualities, self-confidence, communication skills, managerial skills, and responsibilities toward the rural community. Will make them aware of gender issues, Environment protection, social justice and responsible citizen committed to work for national development and unity.

#### **Monetary Economics-Theory and practice:**

The purpose of this course is to enable students to acquire sufficient knowledge of monetary theory and policy. The course content is designed to ensure that the state of the art of monetary theory is given sufficient exposition; while at the same time introducing sufficient doses of

policy and empirical topics with special reference to developing countries, in particular India. The course adequately prepares students for advanced research and practice in the area plus policy analysis and implementation.

**Dissertation:**

By the end of this course students will be able to:

1. Identify and refine an appropriate research question;
2. Apply principles of research design to the question, and select an appropriate methodology;
3. Design and manage a piece of original project work;
4. Select from different methodologies, methods and forms of analysis to produce a suitable research design, and justify this design
5. Discuss the ethical dimensions of their research and obtain appropriate ethical approval if needed
6. Synthesize knowledge and skills previously gained and apply these to an in-depth study
7. Establish links between theory and methods within their field of study
8. Present their findings in an appropriate written format
9. communicate research concepts and contexts clearly and effectively both in writing and oral.

## DEPARTMENT OF ENGLISH

**Program outcomes, Program-specific outcomes, and Course  
outcomes for  
BA &MA ENGLISH LITERATURE AND UG FOUNDATION COURSE-  
ENGLISH LANGUAGE**

### BA English Literature

<b>BA I YEAR</b>			
Paper I	Literature in English (1550-1750)		
Paper II	Literature in English (1750-1900)		
<b>BA II YEAR</b>			
Paper I	Modern English Literature		
Paper II	Modern English Literature		
<b>BA III YEAR</b>			
Paper I	Indian Writings in English		
Paper IIA	American Literature		
Paper IIB	20 <sup>th</sup> Century Literature in English	Optional paper to Paper IIA	

### PROGRAMME SPECIFIC OUTCOME

1. The students are exposed to a wide range of English writings from British, American and Anglo-Indian origin.
2. They will acquire an ability to read and understand various literary genres
3. The Close reading of the texts can help in the development writing skill.
4. Acquaintance with the works of significant American writers of Poetry, Prose Fiction and Drama will provide an opportunity of exposure to American culture and history
5. The students are exposed towards the problems of interpreting Indian Culture via the English Language and are acquainted with the works of significant Indian English writers of Poetry, Prose Fiction and Drama.
6. Demonstrate a set of basic skills in literary communication and explication of literary practices with clarity

**COURSE OUTCOME:**

<b>YEAR</b>	<b>PAPER</b>	<b>COURSE NAME</b>	<b>COURSE OUTCOME</b> After completion of the course:
<b>BA PART I</b>	I	Literature in English (1550-1750)	<ol style="list-style-type: none"><li>1. Students will be acquainted with Shakespearean Drama and its characteristics</li><li>2. An ability to understand different forms of poetry written during Elizabethan to Neoclassical period</li><li>3. Be familiarised with the prose styles of various authors</li></ol>
	II	Literature in English (1750-1900)	<ol style="list-style-type: none"><li>1. A knowledge of the themes, concerns and forms of romantic Literature</li><li>2. Students will be familiarised with various forms Victorian Literature</li><li>3. Gain an insight into British literary History</li></ol>
<b>BA PART II</b>	I	Modern English Literature	<ol style="list-style-type: none"><li>1. Understand various literary terms</li><li>2. Be familiarised with dramatic and poetic innovations during modernist period</li></ol>
	II	Modern English Literature	<ol style="list-style-type: none"><li>1. Understand various poetic devices and forms of Poetry</li><li>2. Be acquainted with World War I Poets, and other modern Poets, Prose writers and Novelists</li></ol>
<b>BA PART III</b>	Paper I	Indian Writings in English	<ol style="list-style-type: none"><li>1. Understand and appreciate the literary works of Indian English writers</li><li>2. Understand the growth of Indian Writing in English</li></ol>
	Paper II A	American Literature	<ol style="list-style-type: none"><li>1. Have a comprehensive idea about the various ages in American Literary History</li><li>2. Appreciate and understand various texts and authors from American Literature</li></ol>
	Paper II B (optional)	20 <sup>th</sup> Century Literature in English	<ol style="list-style-type: none"><li>1. Students will be familiarised with a general background and cultural history of 20<sup>th</sup> century and the effect of two world wars on shaping the contemporary literature</li><li>2. Understand and appreciate the works of representative authors of the 20<sup>th</sup> century writers in English</li></ol>

**LEARNING OUTCOME:**

1. Ability to read critically the prescribed texts and understand its broader implications
2. Ability to recognize and comprehend different varieties of English language and develop a writing style of their own
3. Ability to think critically on various issues and subject matters and relate the same with real life situations.
4. Ability to evaluate the strengths and weaknesses in scholarly texts, and gain critical insight about the reality as a whole.
5. Ability to effectively communicate in English language by reading the various language patterns, sentence structure and dialogue forms. English is the language of science, computers, diplomacy, and tourism. Knowing English increases students' chances of getting a good job in future

**FOUNDATION COURSE - ENGLISH**

B.Sc., B.Com, B.A., B.C.A.-PART I	FOUNDATION COURSE ENGLISH
B.Sc., B.Com, B.A., B.C.A.-PART II	FOUNDATION COURSE ENGLISH
B.Sc., B.Com, B.A., B.C.A.-PART III	FOUNDATION COURSE ENGLISH

**COURSE OUTCOME:**

The course is designed to give knowledge of English Language for the development of communication skills. After completion of the course :

1. Students will be able to have mastery of language for understanding the basic concepts of various subjects.
2. Students will heighten their awareness of correct usage of English grammar in writing and speaking
3. Students will improve their speaking ability in English both in terms of fluency and comprehensibility
4. Students will improve their reading fluency skills through extensive reading
5. They will gain general awareness about the cultural heritage of India in Ist year, Science and scientific approach in IInd year and the problems of Third World Countries in IIIrd year is taught in English courses.

## **LEARNING OUTCOME**

1. Learn the skill of constructing grammatically correct sentences.
2. Apply the basic grammatical rules learnt in speaking and writing.
3. To be able to write, expand an idea and contract a passage.
4. To be able to write official and personal letters
5. Enhancing the vocabulary for linguistic competence and effective communication.
6. Become aware of the moral, cultural values through the stories and chapters prescribed in the course

### **Program : MA English**

The Department of English of Government Ram Bhajan Rai. P.G. seeks to foster the intellectual development of its students by encouraging the study of literature and writing. The Department strives to make its students familiar with a wide range of works of British writers in particular and World literature in general with a special focus on Indian writings in English. The issues of culture, history, gender, race, ethnicity, politics are addressed and negotiated in the process of imparting knowledge of English literature in its pluralistic forms. The Department wishes that each student who graduates with an MA in English will have an enduring interest in language and literature, an awareness of their historical and cultural legacies, knowledge of complexities of human existence, the political and social upheavals and its bearing on literature, an understanding of the ability of great literature to arouse and challenge people to struggle with insightful questions of human identity and values.

### **PROGRAM OUTCOME:**

Following are the expected Programme outcome of MA English

1. Students will get be familiarised with the representative literary, cultural texts of any age regardless of its historical and geographical context.
2. **Critical Close Reading:**
  - Students will develop an ability to read critically the prescribed texts and understand its broader implications.
3. **Critical Thinking**
  - They will have an ability to think critically on various issues and subject matters and relate the same with real life situations.
4. **Writing and Communication Skills**
  - An ability to adjust writing style appropriately to the content, the context, and nature of the subject.
  - Ability to communicate ideas logically.

- Write clearly and effectively in a variety of forms, adapting writing and analytical skills
- Students will comprehend linguistics as well as translation after exposure to literary texts of varied range.

**5. Integrate academic learning and community engagement through practical field work.**

- The Social outreach course proposes to equip the students for community upliftment work.
- It will foster the development of civic responsibility among students

**6. Research Aptitude**

- Development of a spirit of critical and scholarly enquiry for the subject.
- To incorporate the sources into documented academic writing,
- apply appropriate research methodologies to specific problems

**7. Acquisition of Values**

- Through their judgment of the aesthetic value of a literary text students will learn to appreciate whatever is good and beautiful in life. Their healthy mind will thus be storehouse of healthy thoughts.

**8. Issue of Sexuality and Gender:**

- Students will understand the Difference between sex and gender and learn how the later is a social construction
- Appropriation of literary texts as tools of cultural study will help students to challenge centuries of social tradition and scientific belief which promote masculine-feminine and other types of differentiations.

**9. Self-directed and life-long learning**

- Students will be capable to access information and knowledge independently
- Ability to express themselves in speech and writing using English language

**COURSE OUTCOME**

<b>FIRST SEMESTER</b>		
<b>COURS E CODE</b>	<b>COURSE(PAPER/SUBJECTS)</b>	
MAE101	Poetry I	Theory
MAE 102	Drama I	Theory
MAE 103	Prose I	Theory
MAE S01	Social Outreach and Skill development	Project/Field Work
MAEA02	History of English Literature	Theory

## **MAE 101 -Poetry I**

### Course Outcome :

After completion of the course

1. Students will be familiarised with English Poetry, its development, various forms and genres of poetry between 15<sup>th</sup> and 17<sup>th</sup> century
2. They will be aware of the movements throughout the Middle ages to Puritan age.
3. Students will read and appreciate poems on their own
4. Engage in close analysis of narrative and poetic language which helps in applying technical analytical terms.
5. Understanding the literary devices which enhance the beauty of the poem.
6. Students will learn poetic achievements of Geoffrey Chaucer, William Shakespeare, John Donne, John Milton and understand, analyse, appreciate and critically evaluate their poems.

## **MAE 102Drama I**

### Course Outcome :

After completion of the course

1. Students will be familiarised with knowledge of the origin and growth of drama in England
2. Students are exposed to the changing approaches to theatre and the change in dramatic works.
3. They will get an understanding of Elizabethan theatre, stage and settings and Elizabethan audience.
4. Understand the Elizabethan drama and Jacobean drama with respect to plot, character, dialogue, theme, and dramatic technique.
5. Learn about the historical, socio-political and literary features of the time.
6. Students will learn the dramatic achievements of Thomas Kyd, William Shakespeare, Christopher Marlowe, Ben Jonson, and understand, analyse, appreciate and critically evaluate their dramas.

## **MAE 103 Prose I**

### Course Outcome :

After completion of the course

1. Students will be acquainted with the development of Prose writings.
2. They will be acquainted with the prose styles of various authors
3. They will be able to appreciate the idea presented by the author.
4. Enlarge their vocabulary and understand the structure of sentences and grasp the idea of the author.
5. Important essays are read and analysed to enhance their understanding and pleasure in reading.

- Students will understand, analyse, appreciate and critically evaluate Prose works of Francis Bacon, Thomas Browne, John Milton and Machiavelli

### **MAE S01 Social Outreach and communication skills**

Course Outcome:

- Students will be able to communicate effectively orally and in writing.
- Students will develop knowledge, skills, and judgment around human communication that facilitate their ability to work collaboratively with others
- Develop awareness, knowledge and skills for working with diverse groups in the society.
- Learn to connect knowledge gained in classroom with real life situation by getting hands on experience through community services

### **MAE A02 History of English Literature**

Course Outcome :

After completion of the course

- Students will understand how the religious and political history of England influenced the English writers.
- They will be able to delineate major writers and their works in a chronological order.
- Have an insight into the social background with its war or peace, and the upheavals of values and ideology.
- Will understand the chronological survey of the major writers and writings that have contributed to the development of English literature.
- Understanding the importance of social, political and religious background to comprehend any text.
- acquire knowledge about the genres of literature and their emergence and growth through the ages.

<b>SECOND SEMESTER</b>	
<b>COURS E CODE</b>	<b>COURSE(PAPER/SUBJECTS)</b>
MAE201	Poetry II
MAE 202	Drama II
MAE 203	Prose II
MAE S02	Research Methodology & Computer Application: Basics
MAEB03	Literature and Gender

## **MAE201 Poetry II**

### Course Outcome :

After completion of the course

1. The Students will be acquainted with the Restoration & Neo classical poetry.
2. The students will be able to understand the changing poetic conventions from Elizabethan period to Neo Classical period
3. Students will be exposed to the poetic achievements of Alexander Pope, John Dryden, Dr. Samuel Johnson, Thomas Gray and understand, analyse, appreciate and critically evaluate their poems.
4. have a broad idea of social and historical concepts of nature through study of Pre-romantic poetry
5. Acquainted with the socio- political transition and its impact particularly on poems.
6. Familiarised with the changing trends in theme, style, values and conflicts in literary history.

## **MAE202 Drama II**

### Course Outcome :

After completion of the course

1. Students will learn dramatic achievements of William Congreve, Oliver Goldsmith, James Synge, G.B.Shaw, T.S.Eliot, John Dryden, Henrik Ibsen and understand, analyse, appreciate and critically evaluate their Dramas.
2. They can comprehend the origin and development of drama from the Restoration to Modern Age
3. Gain insights into the genre of Comedy of Manners which is fit to be read, with its dialogues, characters, and satire on manners and morality.
4. The emergence of modern drama with stress on the problem plays of Henrik Ibsen and verse Drama of Eliot with its theme and technique is also introduced.
5. appreciate the timeless beauty and appeal of modern drama with their new thematic and stylistic elements.
6. A socio-political background of England is also studied to understand the changing nuances in this field.

## **MAE203 Prose II**

### Course outcome :

After completion of the course

1. the students will be familiarized with new trends of literature from 18<sup>th</sup> century to present
2. They will understand literature in context of socio political and scientific changes.
3. They can enhance their reading skills and appreciate the texts in a critical and creative approach.
4. Appreciate the unique styles of eminent Prose writers ranging from Neo Classical to

Modern age.

5. Gain insight into the major issues of the British society of this age.
6. Students will be familiarised with prose works of Joseph Addison, Richard Steele, Carlyle, John Ruskin, Robert Lynd, Gardiner, Oliver Goldsmith, Hazlitt and Stevenson and understand, analyse, appreciate and critically evaluate their essays

### **MAE S02 Research Methodology & Computer Application: Basics**

#### Course Outcome:

After completion of the course

1. The students will be familiarized with the key concepts and issues related to research.
2. Gain experience with instrument development and data collection methods
3. Perform literature reviews using print and online databases
4. They can read, comprehend, and explain research articles in their academic discipline.
5. Exposed to the basic knowledge of the computer peripherals, operating system and office software packages
6. They will be acquainted with word processing software MS Word and learn to use them to complete their writing assignments
7. They will also be capable to use presentation software MS PowerPoint useful to design their presentations for the seminars

### **MAE B03 Literature and Gender**

#### Course Outcome

After completion of the course

1. Students will learn how and on what grounds women's writings can be considered as a separate genre.
2. They will read and understand canonical texts written by writers across different ages and different countries on the theme of women and Gender
3. Differentiate between sex and gender and how the later is a social construction.
4. Be aware about the issues and concerns of the women writers of the developed, developing and under-developed countries.
5. analyse literary texts through the perspective of Gender

<b>THIRD SEMESTER</b>		
<b>COURS E CODE</b>	<b>COURSE(PAPER/SUBJECTS)</b>	
MAE301	Critical Theory I	Theory
MAE 302	IndianWriting in English I	Theory

MAE 303	American Literature I	Theory
MAE S02	Intellectual property, Human Rights & Environment :Basics	Interdisciplinary Course
MAE C02	Diaspora Studies	Theory

### **MAE 301 Critical Theory I**

#### Course Outcome :

After completion of the course

1. Acquaint students with the various principal critics and trends of criticism since the ancient times to modern times.
2. They are familiarised with the origin of critical ideas in literature from Plato to present
3. The students are introduced to the nature, function and relevance of literary theory and criticism.
4. Students will be capable to judge literary works in an unbiased and dispassionate manner as taught by the masters.
5. Strengthen and develop analytical and logical thinking.

### **MAE 302 Indian Writing in English I**

#### Course Outcome :

After completion of the course

1. The students are introduced to the various shades of Indian writings in English with its movements and artistic nuances.
2. They are familiarised with the emergence ,growth and flowering of Indian writings in English through the turbulent times of pre independence to the modern times.
3. Study the Indian contribution to literature in English
4. compare and appreciate the literary works of Indian writers
5. Able to analyse and appreciate the — Indianness of the writers which makes their writing unique .
6. Students will learn about the works of Indian Authors like Nissim Ezekiel, Shahid Ali, Vijay Tendulkar, Mulk Raj Anand and Anita Desai and understand, analyse, appreciate and critically evaluate their works written in Indian Context

### **MAE 303 American Literature**

#### Course Outcome:

After completion of the course

1. Students will be familiar with the development of American literature over time from Pre colonial to modern times
2. Develop an understanding of social, cultural, historical and literary elements of changing American literature.
3. Understand the American style of writing and philosophies and its impact on the other

- writers.
4. It explores the various perspectives of race, gender, socio economic class and historical background which play a very important role in their works.
  5. Students will learn about American authors like Robert Frost, Emily Dickinson, Hemingway, Arthur Miller, Emerson and Thoreau and understand, analyse, appreciate and critically evaluate their works.

### **MAE SO3 Intellectual property, Human Rights & Environment :Basics**

#### Course Outcome

1. The students will learn about the introduction, concepts, and historical overview of patents.
2. They will gain knowledge of copyright and their historical evolution.
3. They will learn about the rights and relation with life, liberty, equals, and the disabled.
4. Understand the national human rights commission.
5. They will be familiarised with the right to the environment as a human right.

### **MAE B03 Diaspora Studies**

#### Course Outcome

1. the students will be familiarized with the literary productions which address issues related to cultural identity and national identity articulated in the Diasporic literature.
2. They will be able to Define the various attributes of the diasporic writers and the ‘ambivalence’ of their attitudes towards their own motherland as well as their adopted homeland
3. They can comprehend the pain of displacement and search for identity in the texts of diasporic writers.
4. Construct and evaluate the theoretical readings of the various texts.
5. Create an interpretation of the texts in the context of diaspora conditions.

<b>FOURTH SEMESTER</b>	
<b>COURS E CODE</b>	<b>COURSE(PAPER/SUBJECTS)</b>
MAE 401	Critical Theory II
MAE 402	Indian Writing in English II
MAE 403	American Literature II
MAE S04	Dissertation
MAE D03	Modernist Literature

### **MAE 401 Critical Theory II**

Course Outcome :

1. Use and expand domain knowledge in critical theory to create new contexts for developing a research perspective.
2. Develop an overview of major critical tools available to understand a text contextually.
3. Inculcate the skill of attempting a close reading of the text.
4. Ability to analyze and interpret facts.
5. to comprehend the meaning and significance of the key concepts of Rasa-theory

**MAE 302 Indian Writing in English I**

Course Outcome :

1. Students will broaden their horizon of understanding the literary works of Indian English writers
2. They are exposed to study the works of Indian Feminist writers
3. Students will be able to identify the relationship between Indian Writing in English and its social context.
4. They will be able to critically respond to Indian texts and better understand the themes and critically appreciate them.
5. Students will learn about Indian authors like Nehru, Gandhi, Tagore, Abdul Kalam, Premchand, Kamla Das, Shashi Deshpande, Anita Desai, Arundhati Roy and understand, analyse, appreciate and critically evaluate their works.

**MAE 303 American Literature**

Course Outcome:

1. Students will broaden their horizon of understanding American Literature and its development and be familiar with the major changes in writing style of the American writers over the period of time
2. Students will learn to Interpret and identify the psychological behaviour of characters in American literature as this behaviour is reflective of racial, gender, social and economic conditions.
3. Students will Identify and analyze the role major American historical occurrences have upon the plot, theme, and characterization in American Literature.
4. They will be enabled to appreciate mutually beneficial relationship between India and the U.S. through the literary medium
5. Students will learn about American authors like Eugene O'Neill, Tennessee Williams, Sylvia Plath, A E Poe, Faulkner, Hemingway, Hawthorne and India-American writer Bharti Mukerjee and understand, analyse, appreciate and critically evaluate their works.

**MAE SO4 Dissertation**

Course Outcome

1. An urge for research will be cultivated in the students,

2. Students will develop writing skills
3. They are exposed to integrate writing and thought and to apply the conventions of academic writing correctly.
4. They are familiarized with how to plan, and engage in, an independent and sustained critical investigation and evaluation of a chosen research topic relevant to environment and society
5. Understand and apply ethical standards of conduct in the collection and evaluation of data and other resources

### **MAE B03 Modernist literature**

#### Course Outcome

1. Know about the meaning and scope of the concepts of the Modern/Modernity/Modernism
2. Study and interpret representative writings from the 20th and 21st century
3. Acquaint themselves with the great tradition of modern European drama
4. Examine various literary techniques that writers of 20th century use in writing their texts, and demonstrate an understanding of these techniques.
5. Reflect upon the great upheaval that the world has undergone during 20th century and the constructive role of literary activism/movements in restoring humane values.

**GOVT. RBR NES PG COLLEGE, JASHPUR COURSE OUTCOME**

**DEPARTMENT OF GEOGRAPHY**

**B.A I**

**Paper I**

**PHYSICAL GEOGRAPHY**

Post completion of this course student will:

1. Have knowledge of nature and scope of physical geography.
2. Be able to explain Earth movements, Weathering, Erosion and landscapes.
3. Have in-depth understanding of composition and structure of the atmosphere and its various aspects.
4. Have in-depth understanding of elements, classification, characteristics and patterns of climate.
5. Have greater knowledge of Oceans, their distribution, temperature, salinity, currents, tides and resources.

**Paper III**

**PRACTICAL GEOGRAPHY**

Post completion of this course student will:

1. Be able to explain Scales and Representative fraction.
2. Have greater understanding of Contour.
3. Be capable of understanding and making Graphs and Diagrams.
4. Have knowledge of Statistical Techniques i.e. Mean, Median, Mode.

**B.A II**

**Paper I**

**ECONOMIC AND RESOURCE GEOGRAPHY**

Post completion of this course student will:

- Have basic knowledge of Economic Geography.
- Be able to explain Resource and its concepts.

- Have great knowledge of various mineral resources.
- Be able to interpret agricultural regions of the world and its different theories.
- Have in-depth understanding of world transportation.
- Have the knowledge of major trade blocks.
- Be able to understand the effect of globalisation of developing countries.
- Have understood conservation of resources and policy making.

### **Paper III**

#### **MAP INTERPTATION, PROJECTIONS AND STATISTICAL METHODS**

Post completion of this course student will:

1. Be able to explain distribution of Maps
2. Have basic knowledge of Map Projections.
3. Be able to interpret weather maps and use of meteorological instruments.
4. Have comprehensive knowledge of statistical methods.
5. Be capable of elaborate Surveying.

### **B.A III**

#### **Paper I**

#### **REMOTE SENSING AND GIS**

Post completion of this course student will:

1. Be able to explain the basics of remote sensing its types.
2. Have greater understanding of visual and digital image processing techniques.
3. Have in-depth understanding of GIS, its scope, importance, history, components, functions etc.
4. Be able to explain data model and data analysis and its other concepts.

#### **Paper III**

#### **PRACTICAL GEOGRAPHY**

Post completion of this course student will:

1. Be able to read and interpret maps.
2. Have knowledge of Band Graph, Climograph, Square and Cube root and topographical sheets.
3. Have greater understanding of satellite imageries and application of GPS.
4. Be able to explain plane table survey.

5. Have greater understanding of field work and field report.

## **M.A**

### **SEM I**

#### **FLUVIAL GEOMORPHOLOGY**

Post completion of this course student will:

1. Have comprehensive knowledge of drainage pattern, its evolution, network composition, flow characteristics and associated laws.
2. Be able to explain characteristics of drainage basin.
3. Have greater understanding of Fluvial Erosion, landform associated with it and impact of human activities on it.

### **SEM I**

#### **GEOMORPHOLOGY**

Post completion of this course student will:

1. Have basic knowledge of Geomorphology.
2. Be able to explain continents and ocean basins.
3. Have a great understanding of endogenetic forces and various theories related to it.
4. Have knowledge of cycle of erosion and its models and system.

### **SEM II**

#### **BIOGEOGRAPHY**

Post completion of this course student will:

1. Have knowledge of Biogeography.
2. Be able to explain spatial dimension in Biogeography.
3. Have greater understanding of migration of plants and animals and theories and concepts of biogeography.
4. Be able to understand formation, properties and global distribution of soil, soil profile, vegetation and major biomes.

### **SEM II**

#### **MAP PROJECTION MAP INTERPRETATION AND SURVEYING (PRACTICLE)**

Post completion of this course student will:

1. Be able to explain Geographical and Mathematical construction of world projections,
2. Be able to interpret Geological maps.
3. Have understood principals and methods of topographical surveying using theodolite and Dumpy level and solutions of problems in surveying.

### **SEM III**

#### **INTELLECTUAL PROPERTY RIGHTS, HUMAN RIGHTS AND ENVIRONMENT**

Post completion of this course student will:

1. Have all round knowledge of patents.
2. Be able to explain copyright and its aspects.
3. Have a great understanding of human rights and its necessity.
4. Have knowledge of various bodies and institutions upholding human rights.
5. Able to explain human rights in context of environment and sustainable development.

### **SEM III**

#### **MEDICAL GEOGRAPHY**

Post completion of this course student will:

1. Have comprehensive knowledge of Medical Geography and its distinctions from medical sciences.
2. Have in-depth understanding of how geographical factors affect human health and diseases that arise from them.
3. Be capable of classifying diseases on the basis of multiple parameters based on their transmission, origin, causes, geographical distribution etc.
4. Have a greater understanding of Health-care planning and policies.

### **SEM IV**

#### **SOCIAL GEOGRAPHY**

Post completion of this course student will:

1. have a comprehensive understanding of social Geography.
2. Able to explain peopling process of India and its aspects.
3. Have an in depth understanding of society and its various categories like caste, religion, class and their spatial distribution.
4. Be capable of elaborating on healthcare, housing, education and slums, gated communities', communal conflict etc..all in the context of social geography.

## **SEM IV**

### **FIELD WORK SOCIO ECONOMIC SURVEY (PRACTICAL)**

Post completion of discourse student will

1. Have knowledge of field work in geographical studies.
2. Be able to define field work and identify case studies that fall under geographical realm.
3. Have in depth understanding of field work techniques.
4. Have knowledge of the various uses of field tools.
5. Be able to design field report.

This course will enable students to carry out field-based survey and report their findings.

## **SEM IV**

### **REGIONAL PLANNING AND DEVELOPMENT**

Post completion of discourse student will

1. Be able to explain the regional planning, its definition, scope, evolution, objectives, types and various other aspects.
2. Have greater understanding of theories and models related to development of the region.
3. Be able to elaborate on approaches and strategies of regional development.
4. Have a deeper understanding of regional planning in Indian context. Enter

This course will enable students to understand and evaluate the concept of region in geography and its importance in regional planning.

## **M.A. IN GEOGRAPHY I SEMESTER COURSE**

### **OUTCOME OF CLIMATOLOGY**

- Co1 Students will be familiar with the elements of climate and weather and its effects.
- Co2 Students will be familiar with the origin, distribution of cyclone and anti-cyclone and its effect on the weather.
- Co3 Students will be able to make meteorological Predictions by getting acquainted with the traditional and modern techniques of weather forecasting.
- Co4 Students will be aware of the problems related to monsoon and monsoon prediction.

## **M.A. IN GEOGRAPHY I SEMESTER COURSE**

### **OUTCOME OF GEOGRAPHY OF INDIA**

- Co1 Students will be familiar with the geological structure and physical nature of India.
- Co2 Students will be get acquainted with the major crops, crop problems of India and achievements of green revolution.
- Co3 Students will be familiar with different sources of energy.
- Co4 Students will be familiar with the physical, cultural, economic, social etc nature of Chhattisgarh.

## **M.A. IN GEOGRAPHY II SEMESTER COURSE**

### **OUTCOME OF OCEANOGRAPHY**

- Co1 Students will be familiar with the nature and subject area of oceanography. Along with this, you will also know about the physical and chemical properties of sea water.
- Co2 Students will understand the inter relationship between atmospheric circulation and circulation patterns in the oceans. Understand the impact of ocean currents, temperature, waves and tides on human life and the environment.
- Co3 Students will get acquainted with ocean bottom, ocean fauna, seafood and minerals.
- Co4 Students will learn about the marine environment and marine environment and marine law understand its importance in the special Economic zone.

## **M.A. IN GEOGRAPHY II SEMESTER**

### **COURSE OUTCOME OF ENVIRONMENTAL GEOGRAPHY**

- Co1 Students will be familiar with the meaning and concept of environment and will understand the importance of environmental studies in the subject of geography.
- Co2 Students will be familiar with ecosystem especially forest and agricultural ecosystems. And will understand the effects of its development and destruction.
- Co3 Students will be familiar with these facts that the environment is understood due to pollution. Soil, air and water pollution is a burning problem of today.
- Co4 Students will be familiar with the policy and law related to environmental management and will help in making the society aware for the protection of the environment.

## **M.A. IN GEOGRAPHY III SEMESTER**

### **COURSE OUTCOME OF RURAL SETTLEMENT GEOGRAPHY**

- Co1 Students will be familiar with various models related to the development of rural settlement.
- Co2 Students will be familiar with the rural settlement of western countries and Asian countries and will understand the importance of service centers in rural areas.
- Co3 Students will get to know about the types of traditional houses and their characteristics in different parts of the world.
- Co4 Students will be familiar with the morphology of Indian villages and will be able to understand the utility plans and models in the construction of Indian villages.

## **M.A. IN GEOGRAPHY III SEMESTER**

### **COURSE OUTCOME – PRINCIPLE OF ECONOMIC GEOGRAPHY**

- Co1 Students will be familiar with the scope and recent trends of economic geography and will understand the relationship of economic geography with other social sciences.
- Co2 Students will be familiar with the physical, social, economic and cultural factors influencing economic activities and will also be familiar with the industries based on agriculture, mineral resources and vegetation.
- Co3 Students will be familiar with the modes of transportation and cost of transportation.
- Co4 Students will be familiar with the market mechanism and will be able to understand the impact of green revolution and globalization on the Indian economy.

## **M.A. IN GEOGRAPHY IV SEMESTER COURSE**

### **OUTCOME -URBAN GEOGRAPHY**

- Co1 Students will be familiar with the purpose and scope of the study of urban geography.
- Co2 Students will be familiar with the internal structure of cities and understand the various theories of urban structure.
- Co3 Students will get acquainted with the function of the city.
- Co4 Students will be aware of the contemporary urban problems of the city and will be able to understand the land use of urban towns.

## **M.A. IN GEOGRAPHY IV SEMESTER COURSE**

### **OUTCOME -POPULATION GEOGRAPHY**

- Co1 Students will be familiar with the nature and scope of population geography.
- Co2 Students will understand about spatial and global patterns of population and their determinant.
- Co3 Students will be familiar with the structure of population in India.
- Co4 Students will be aware of the factors affecting and the consequences of migration.

## **M.A. IN GEOGRAPHY IV SEMESTER COURSE**

### **OUTCOME- INDUSTRIAL GEOGRAPHY**

- Co1 Students will be familiar with the nature, scope and development of industrial geography and elements and factors of its localization at present.
- Co2 Students will be familiar with and be able to apply various theories and models of localisation of Industries .
- Co3 Students will be familiar with various industries and methods of measuring the spatial distribution of industries.
- Co4 Students will be familiar with environmental degradation caused by industry and will also be familiar with industrial policy .,Well be aware of environmental protection.

## **PROGRAMESPECIFIC OUTCOME OF GEOGRAPHY**

- Pso1 Imbibing knowledge, skills and holistic understand of the earth ,atmosphere, ocean and the planet through analysis of landform development, crustal , mobility and tectonics, climate change and dynamics , soil foundation and classification, hydrological and oceanographic studies etc.
- Pso2 Associating landforms with structure and process, establishing man- environment relationships. On exploring the place and role of geography us – aother social and earth sciences.
- Pso3 Understanding the role and functioning of globe economics industrial locations, and the use and exploitation of resources with impact.
- Pso4 Developing a sensitive and sustainable approach towards the ecosystem and the biosphere with a view to conserve natural systems and maintain ecological balance.
- Pso5 Inculcating a tolerantmindset andattitude towards the vast socio- cultural diversity of India by studing and discussing contemporary concepts of social and cultural geography.
- Pso6 Developing on understanding of geopolitics global geostrategic views and functioning of political system.
- Pso7 Analysing the differential pattern of the human habitation of the earth, enough studies of human settlements and population dynamic.
- Pso8 Understanding and accounting for regional disparities, poverty, unemployment and the impacts of glopaliyation. Explaining and analyging the regional diversity of India through interpretation of natural and planning regions.
- Pso9 Overviewing ancient and contemporary geographical thought and its relationship with modern concepts of empiricism , positivism, radicalism, behaviuralism etc.
- Pso10 Sensitisation and awareness about the hazards and disasters to which the subcontinent is vulnerable, and their management.
- Pso11 Training in practical techniques of mapping, cartography, software, interpretation of maps, photographs and images etc. So as.to understand the spatial variation of phenomena on the earth's surface.

## LukrdsYk j %fgUnh %&izksxke vkmVde

- Po.1 fgUnh lkfgR; vkSj Hkk'kk dk 0;ofLFkr Kku izklr gksxk ftlll mUg lkfgR;d fodkll ds lac/k es leqfpr tkudkjH feysxhA
- Po 2 lkfgR; IEizs'kk ds eq[; fcUnqvK dh tkudkjH izklr gksxhA
- Po 3 lkfgR; dh fofHkUu fo/kkvk dk csgrj rjHds ll le>u dh ;ksX;rk dk fodkll gksxkA
- Po 4 Hkk'kk;h fofo/krk ds lkFk&lkFk lkfgR;d lkaLd'frd fofo/krk dk tkuu ds izfr tkx:d gksxsaA
- Po 5 fgUnh lkfgR; ys[ku vkSj vuqokn dk eap feysxk ftldk mi;ksx dj tulapkj ds {ks= esa 0;fDrRo dk fodkll gksxkA
- Po 6 vk/kqfud rduhdh lalk/kuk dk bLrseky djr gq, fgUnh lkfgR; dh tkudkjH izklr djsaxsaA
- Po7 ys[ku] okpu vkSj Jo'kk ds lkFk&lkFk dYiuk "kfDr dk fodkll gksxk ftlll mud lex 0;fDrRo es fu[kkj vk,xkA
- Po 8 lkfgR; ds v/;;u ds i'pkr~ jkstxkj ds fofHkUu {k=k dk igpku ldxA
- Po 9 lkfgR; ys[ku dh leh{kkRed n'V vkSj fofo/k "kSyh dk fodkll gksxkA
- Po10 LFkkuh; jk'Vh; vkSj oS'od lkaLd'frdegUo dk le> ldsxsaA
- Po11 izR;sd LRkj ij thou ewY;ksa vkSj lkfgR;d ewY;ks dk fu/kkZj d djus es l{ke gksxsaA

## Lukrd izksxke vkmVde

- Po.1 fo|kfFkZ;ks dk fgUnh Hkk'kk dk leqfpr Kku gksxkA
- Po.2 fo'k; ds rF;iw'iz Kku ds lkFk&lkFk rfdZd&fparu dk fodkll gksxkA
- Po.3 fgUnh Hkk'kk o lkfgR; ds izfr vfHk:fp mRiUu gksxhA
- Po.4 fgUnh Hkk'kk ,oe~ lkfgR; ds izfr vuqLa/kkukRed n'Vdkk'k'rk' gksxkA
- Po.5 lkfgR; ds v/;;u d lkFk&lkFk fo|kfFkZ;ks dk lkaLd'frd ewY;ksa dk Kku gksxkA
- Po.6 fo|kfFkZ;k dk uS'rd lkekftd ,oe~ jk'Vh; ewY;ks d izfr :>kku c<sxkA
- Po.7 cks/kiw'iz Hkk'kk;h dkS"ky dk fodkll gksxkA
- Po.8 0;kogkfjd xq'kks dk fodkll gksxkA
- Po.9 ekr'Hkk'kk ds :ll esa fgUnh ds 'kCnk dh igpku gksxhA

**COURSE OUTCOME-U.G.**  
**B.A./ B.Com /B.Sc. / B.C.A. – Ist**  
**vk-ik-1 ¼fgUnh Hkk"kk ,o IEiz'k ¼ dk"ky½**

Co.1-bl iz'u i= ds v/;;u ■ Nk= fgUnh Hkk"kk dk Kku ,oa IEiz'k ¼ dk"ky½ izklr djus es leFk gk ldsaxsA

Co.2 Hkk"kk dk OofLFkr ,oa rdZ laxr Kku izklr dj ldsaxsA

Co.3 ikfjHkkf'kd "kCnkoyh rFkk Hkk"kk dh fofHkUu bdkb;ksa&/ofu "kCn] vFk] okD; bR;kfn dkKku izklr dj ldsaxA

Co.4nsoukxjh fyfi dh oSKkfudrk@voSKkfudrk ¼lhekvk½ dk Kku izklr dj ldsaxsA

Co.5 vuqokn dh mi;ksfxrk ,oa egYo dk le> ldxsA

Co.6 i= ys[ku e l{ke gk ldsaxsA

Co.7 dEI;wVj es fgUnh dk vuqiz;ksx lh[k ■ dsaxsA

**COURSE OUTCOME-U.G.**

**B.A./ B.Com /B.Sc. / B.C.A. – II nd**  
**¼fgUnh d Js'B fuca/k ,oa iz;ksxxr 0;kdj ¼½**

Co.1-fuca/k ys[ku dh le> fodfllr gksxhA

Co.2-dk;Zky;hu fgUnh ds Lo:l k ,oa mlds iz;ksx ■ ifjfr gk ldxA

Co.3-Hkk"kk ds fofHkUu =iksa ¼ehfM;k] foUk ,oa okf ¼T; e'khuh Hkk"kk½ dk Kku izklr dj ldxsA

Co.4 fgUnh dh 0;kdjfdkd dksfV;ksa ■ ifjfr gksxsa

Co.5 fgUnh Hkk"kk dk ekf[kd Kku ,o ys[ku dkS"ky dk lao/kZu gksxkA

**COURSE OUTCOME-U.G.**

**B.A./ B.Com /B.Sc. / B.C.A. – IIIrd**  
**vk-ik-1 ¼fgUnh Hkk"kk ,o lelkef;d½**

Co1 dFku dh "kSyh rFkk mlds iz;ksx dk le> ldxsA

Co2 fgUnh dh okD;&lajpuk rFkk fgUnh Hkk"kk vkSj mid fofok iz;ksx dh tkudkj izklr dj ldsxsA

Co3 vuqokn n{krk fodfllr gksxhA

Co4 laLd'fr dh vo/kkj ¼ dk vPNh rjg le> ldxsA

Co5 lkfgR; dh fo/kkvk&dguh] ,dkadh] fuca[k] dfork bR;kfn dk Kku izklr dj ldsaxsA

**COURSE OUTCOME-U.G.**

**B.A.I fgUnh lkfgR;**  
**¼izkphu fgUnh dk0;½**

Co1 fgUnh lkfgR; ds bfrgk ■ dsvarxZr fofHkUu dkyks dk ifjp; izklr dj ldxsA

Co2 vkfndky] Hkfädky rFkk jhfrdky dh ifjLFkr;ksa dk v/;;u dj dky fo'k'k dh izo`fRr;ksa dk le>u es leFk gksxsa

Co3 Hkfädky dh fofHkUu /kkjvk] midh fo"ks"krkvk rFkk izfrfuf/k jpukdkj dh jpukvk

rFkk mudh jpuk n'V dk le> ldxsA

Co4 fofHkUu jpukdkjk ds izfr lekykspukRed n'V dk fodk l gksxkA

Co5 dk0; ds Lo:l k dk Kku izklr gksxkA

COURSE OUTCOME-U.G.

**Paper-II fgUdh dFkk lkfgR;**

Co1 x l lkfgR; dh fo/kkvk l ifjfpr gksxkA

Co2 dFkk lkfgR; ds mn-Hko ,o fodk l l ifjfpr gksxkA

Co3 fofHkUu miU;kldkj ,o dgkuhdkj rFkk mudh jpukvk dh tkudkj izklr dj ldxsA

Co4 miU;k l ,oa dgkuh ys[ku gsr izsfjr gksxkA

COURSE OUTCOME-U.G.

**B.A.II fgUdh lkfgR;**

**Paper-I %vokZphufgUdh dk0; 1/2**

Co1 vk/kqfud fgUdh dk0; d Lo:i fodk l ls ifjfpr gksxkA

Co2 vk/kqfud dky dh fofHkUu ifjLFkfr;ks l kekftd] jktuhfrd] vkfFkZd] /kkfed o

lkfgR;d&lkd'frd i`Bhkqje ,o rn~tU; izo`fYk;k dk le>u dh {kerk fodk l r gksxhA

Co3 vokZphu fgUdh dk0; dh leLr fo'k'krkvk ,oa r'Rdkyhu dfo;ks ls ifjfpr gksxkA

Co4 fofHkUu dfo;ksa dk rgyukRed v/;;u dj ldxsA

COURSE OUTCOME-U.G.

**fgUdh lkfgR;**

**Paper-II %fgUdhfucalk rFkk vU; x l fo/kk,W%**

Co1 xBu fo/kkvk ds varxZr fuca/k] ,dkadh fo/kk ls ifjfpr gkx rFkk muds Lo:l k dk Kku gksxkA

Co2 x l fo/kkvk dk ;qxhu lanHkk ds vkyksd esa le> ldxsA

Co3 xaHkhj Hkko&fpUru] l okn & dyk vkSj euksjatu ls tqM+dj ykHkkfUor gksxkA

Co4 jaxep l ifjfpr gkxkA

COURSE OUTCOME-U.G.

**Paper fgUdh lkfgR;**

**iz"ui= izfke&tuinh; Hkk'kk lkfgR; %NRrhlx<h%**

Co1 NRrhlx<h+ Hkk'kk ds bfrgk l l ifjfpr gksxkA

Co2 NRrhlx<h+ ds jpukdkjk rFkk mudh jpukvk dk Kku izklr gkxkA

Co3 NRrhIx<h+ ykdsks[Dr] eqgkojaj igsfy;KW bR;kfn ■ ifjfpr gkxA

Co4 NRrhIx<h+ lkfgR; ,o lkfgR;dkjk ds laca/k es vkykspkRed n'V fodf■ r gksxhA

**B.A.III fgUnh lkfgR;  
iz"ui= f}rh;&fgUnh Hkk'kk lkfgR; dk bfrgk■ rFkk dk0;kax foospu**

Co 1 fgUnh Hkk'kk lkfgR; ds bfrgk■ ls ifjfpr gkxSA

Co2 fgUnh Hkk'kk ds fofok Lo:iksa dk Kkuizklr dju d lkFk&lkFk fgUnh ds 'kCn Hk kjk  
ls Hkh ifjfpr gkxA

Co3 fgUnh lkfgR; ds bfrgk■ ,oa dky&foHkkTku ls ifjfpr gkxSA

Co4 fofHkUu ;qxx dh ifjLFkr;ksa ,o eq[; izo`fRr;ksa ls ifjfpr gkxSA

Co5 dk0; dk Lo:lk] iz;kstu] NUn] jI] vyadj& ;kstuk dk ■w{erk ds lkFk le>  
ldsaxSA

**,e- , - %fgUnh% izFke lsesLVj  
fo"K;%& fgUnh lkfgR; dk bfrgk■**

Co 1 vkfndky ls vk/kqfud dky rdd lkekftd ] lkaLd`frd o jktuhfrd ■anHkk dk  
le> ldsaxSA

Co 2 fgUnh lkfgR; ds bfrgk■ ds fodklØe ls ifjfpr gk ldsaxSA

Co 3 vkfndky ls vc rd dh lkfgR;d xrfok/k;ksa ■ ifjfpr gk ldsaxSA

Co 4 jktuhfrd ,oa lkaLd`frd vkanksyuk ,o muds lkfgR;d ifjoru d lac/k es Kku  
izklr dj ldsaxSA

Co 5 fgUnh ds Hkk'kkxr fodk■ Øe ls ifjfpr gk ldsaxSA

Co 6 [kM+h cksyh d dk0; Hkk'kk cuus vkSj fu[kju ds bfrgk■ ■ ifjfpr gk ldsaxSA

Co 7 jk'Vh; uotkxjck ds ifjn`"; ■ ifjfpr gk ■dsaxSA

Co 8 lkfgR; ls lacf/kr vkykspukRed ,oa rgyukRed v/;u ls ifjfpr gk ldsaxSA

Co 9 fgUnh ds vkykspdk ds ifjp; }jk fgUnh dk jk'VHkk'kk ds : i es Lohdk;Zrk dh igpku  
gksxhA

**,e- , -1/4fgUnh% ■ sesLVj izFke**

**fo"K; %& fgUnh Hkk'kk ,oa Hkk'kk foKku**

- Co 1 fgUnh Hkk'kk ds bfrgk ■ ,oa fodklØe ■ ifjfpr gk ldsaxsA
- Co 2 fgUnh Hkk'kk ds fofo/k =iksa dh tkudkjh izklr gksxhA
- Co 3 lkfgR; v;/iu ds ek;/e ■ Hkk'kk foKku dh mi;ksfxrk dk le> ■ dsaxsA
- Co 4 Hkk'kk foKku ds Hksn ,oa mudh vyx&vyx "kk[kkvks ls voxr gkxsA
- Co 5 Hkkjrh; vk;Z Hkk'kkvks dh ,sfrgkfld i`BHkwfe ■ ifjfpr gkxsA
- Co 6 fgUnh Hkk'kk ds vk/kqfudhdj ः ,oa ekudhdj ः ls ifjfpr gkxsA
- Co 7 vo/kh] czt ,oa [kM+h cksyh dh fo'ks'krkvk ls ifjfpr gkxsA Co
- 8 fgUnh Hkk'kk ds Lo:i ls voxr gk ldsaxsA
- Co 9 nsoukxjh fyfi ds fodk ■ ds voxr gk ldsaxsA
- Co 10 fgUnh ds "kCn Hknk d fodklØe ■ ifjfpr gkxsA

**,e- , -1/4fgUnh% izFke ■ sesLVj**

**fo"K; %& izkphu ,oa e;/dkyhu dk0;**

- Co 1 fgUnh lkfgR; ds bfrgk ■ dh vkfndkyhu]HkfDrdkyhu ,o jhfrdkyhu i`BHkwfe ■ ifjfpr gkxsA
- Co 2 izkphu ,o e;/dkyhu dfo;ksa rFkk mudh lkfgR; d d'fr;ksa ■ ifjfpr gkxsA
- Co 3 dfo;ksa }kj vk vk; s x, dk0; d fofHkUu Lo:iiksa ls voxr gkxsA
- Co 4 fofHkUu dfo;ksa dk lekykspukRed ewY;kadu dj lkfgR; esa LFkku fu:fir dj ldsaxsA
- Co 5 izkphu ,o e;/dkyhu dfo;ksa dh dk0;dyk ■ ifjfpr gk ldsaxsA

**,e- , - 1/4fgUnh% izFke lsesLVj**

**fo"K; %& HkDr dfo ■ wjnk**

- Co 1 HkDr dfo lwjnk ■ ds dfoÙo ls ifjfpr gk ldsaxsA
- Co 2 lkfgR; txr esa lwjnk ds egYo ■ ifjfpr gk ldsaxsA
- Co 3 HkfDrdkyhu dfo;ksa dk rqykukRed v/;;u dj ldsaxsA
- Co 4 lwjnk ■ dh HkDr&Hkkouk ■ voxr gkxsA
- Co 5 rqykRed ,oa vkykspukRed v/;;u ls uohu "kks/k n'i'V fodfllr gksxhA

Co 6 lwjnk ■ dh dk0; xr fo'ks'krkvk ls ifjfpr gkxsA

Co 7 lwjnk ■ d dk0; dh izklafxdrk ■ voxr gkxA

Co 8 lwjnk ■ d okRIY; oꝑꝑu ls ifjfpr gkxsA

**,e- ,· ¼fgUnh½ izFke lsesLVj**

**fo" k; %& 'kks/k izfof/k ,oa dEl;wVj ,lyhds'ku**

Co 1 'kks/k dh vo/kkj ꝑꝑk ls ifjfpr gkxsA

Co 2 vuqla/kku dh i`BHkwfe ls ifjfpr gkxsA

Co 3 'kks/k izLrko dh :ijs[kk ls ifjfpr gkxsA Co

4 'kks/k dk;Z esa m)s';&fu/kkZj k lꝑ voxr gkxsA Co

5 'kks/k ,o izdk'ku 'kCnkoyh ls ifjfpr gkxsA

Co 6 leadk dk izlaLdj ꝑꝑk oxhZdj ꝑꝑk ,oa izLrrrdj ꝑꝑk ds v/;;u ls ifjfpr gkxsA

Co 7 vkadM+s ,d= ꝑꝑk dh fof/k;ksa ■ ifjfpr gkxsA

Co 8 fl)kar fuek ꝑꝑk ,o 'kks/k izfrosnu ys[ku ls voxr gkxsA

**,e- ,· ¼fgUnh½}rh; lsesLVj**

**fo" k; %&vk/kqfud dk0;**

Co 1 vk/kqfud fgUnh dk0; dh izo`fr;ksa ls ifjfpr gksaxsA

Co 2 izca/k vkSj eqDrd dk0; ds r'kfUod Lo:l k dh tkudkj h izklr gksxhA

Co 3 vk/kqfud dky ds lkekftd ,o lkaLd`frd ifjn`'; dk le> ik;saxsA

Co 4 vk/kqfud dk0; ds v/;;u ls ewY;kadu dh n`fV fodfllr gksxhA

Co 5 vk/kqfud ;qx ds dk0; izdkjk ds fodklØe ,oa r'kfRod Lo:i ls ifjfpr gkxsA

Co 6 vk/kqfud dfo;k dk v/;;u dj rayukRed Js'Brk fu/kkZj r djxsA

Co 7 vk/kqfud dk0; ds {ks= esa uohu 'kks/k n`fV ,oa 'kks/k izo`fr fodfllr gksxhA

Co 8 izca/k dk0; vkSj eqDrd dk0; d fodkll Øe ls ifjfpr gkxsA

,e- , - ¼fgUnh½ f}rh; ■sesLVj

fo"K;,%& Hkkjrh; dk0; 'kkL=

Co 1 Hkkjrh; lkfgR; 'kkL= ds Lo:i ls ifjfpr gksaxsA Co

2 Hkkjrh; lkfgR; 'kkL= ds fodklØe ls ifjfpr gksaxsA Co

3 lkfgR; 'kkL= ds dk0; iz;kstuk ls ifjfpr gksaxsA

Co 4 dk0;'kkL= dk ifjp;] dk0;y{kçk] dk0; gr ls voxr gksaxsA

Co 5 Hkkjrh; lkfgR; 'kkL=;ksa }kjk çrk;s x;s dk0; ds izdkjk ■ ifjfpr gksaxsA

Co 6 j■ dh vo/kkjçk] j■ fu'ifRr ,oa lk/kkjçhdjçk ds egÿo dk le> ldsaxsA

Co 7 /ofu fl)kar d lkFk&lkFk Hkkjrh; lkfgR; 'kkL= ds ewy fl)karçk dk le> ik;saxsA

Co 8 lkfgR; 'kkL= ds v/; ;u ds ek/;e ■ leh{kkRed n'V fodf■r gksxhA

Co 9 fgUnh ds vkykspdk ds ifjp; }kjk fgUnh dk j'VHkk'kk ds : i es Lohdk;Zrk dh igpku gksxhA

### ifj;kstuk dk; ■kj

,e0,0 fgUnh f}rh; lsesLVj ds prqFk iz'u i= ^lkeftd vf/kxe ,oa dkS'ky fodkl^ ds varxZr ifj;kstuk dk;Z gr t'kiqj dh LFkkuh; unh ¼ckadh unh½ dk pquk x;k tk fd t''kiqj dh thou js[kk ekuh tkrh gSA ;g unh xzie flVksaxk ls fudydj HkqMdsyk xko ds ikl yokok unh e fey tkrh g vkSj yokok unh vx tkdj 'ka[k unh e fey tkrh gSA

;|fi unh dk izokg {ks= eggr vf/kd ugh g fdUr fQj Hkh blds rVori {ks=esa esa çs xkok ds fy, ;g unh mi;ksxh gSA c<+r i;kZojçk iznq"çk rFkk vfrØeçk ds dkjçk unh dh orZeku voLFkk 'kkspuh; gSA Loa;Isah laxBuk rFkk foHkUu ■eqn;ksa dh igy rFkk iz''kkIfud lg;ksx ls foXr dqN eghuk ls blds lao/kZu ,oa iqu: )kj dk dk;Z izxfr ij gSA çkVdh unh dh mi;ksfxrk vkSj mlds LFkkuh; egÿo dk /;ku esa j[kdj gh \*\* i;kZojçk dh dlkSVh ij çkVdh unh ^ fo'k; dk ifj;kstuk dk;Z gsr pquk x;kA

bl ifj;kstuk ds p;u dk m)s'; fo|kFkZ;k dk tylzksrk ds egÿo dk Kku nu d lkFk&lkFk unh dh mi;ksfxrk dk le> mlds laj{kçk ,oa lao/kZu gsr izsfjr djuk Hkh FkkA bl ifj;kstuk ds ek/;e ls fo|kFkZ;k u unh ds mn~xe ls ysdj eggu rd voyksdu dj mldh ,sfrgkfld i'BkHkwe dk Hkh ifjp; izklr fd;kA Jenku ds }kjk unh ,oa unh ds fdukjks dh IQkbZ dhA fgUnh foHkkx dh igy ij iwjk egfo|ky; bl iquh dk;Z esa lfEefyr gqv ftlesa egfo|ky; ds izkpk;Z MkWO fot; dqekj jf{kR ds ekxZn'kZu ,o lg;ksx dh egrh Hkwfedk jghA

fo|kFkZ;ks u ifj;kstuk dk;Z izfrosnu ds varxZr unh d mn~xe dh dFkk ] mldk izokg {ks=} mi;ksfxrk dk j[kkafdr fd;kA lkFk gh unh dh orZeku flFkfr ij fpUrK 0;Dr djr gq, unh iznq"çk ds dkjçk dk irk yxk;k rFkk mld laj{kçk gsr mik; ,o lq>ko Hkh fn;kA

fnukad 06-08-2022 dk ifj;kstuk dk;Z izfrosnu vk/kkfjr ekS[kd ijh{kk dk vk;kstu fd;k x;k ftlds ek;/e ls muds dk;ksZ dk ewy;kadu Hkh fd;k x;kA ekSf[kd ijh{kk e Jh ,Ovkj0 cSjkh lgk0 izk/;id %okfokT;½ rFkk Jh ,lOih0 Hkxr lgk0 izk0 fgUnh uohu 'kk0 egkfo|ky;] euksjk fo'k; fo'ks'kKk ds = i esa mifLFkr FksA

fuf'pr gh ifj;kstuk dk;Z Nk=k ds O;fDrRo fodk esa lgk;d gSA bll mUkdh lekykspuk n'V] rkdZd {kerk vkSj dkS'ky dk fodk gkrk gSA

**COURSE OUTCOME-P.G.**

**,e- ,-%fgUnh½ r`rh; lsesLVj  
iz'u i= izfke& fgUnh fucalk ,oa vU; xn~; fo/kk,i**

- Co 1 fgUnh xn~; dh fofHkUu fo/kkvk ds mn~Hko ,oa fodk Øe ls ifjpr gksxA
- Co 2 fuca/kk dh izd'ir vkSj muds Hksnk dk leqpr Kku izklr dj ldxsA
- Co 3 izeq[k fuca/kdkj vkSj muds fuca/kk dk Kku gkxk rFkk Lo; ds jpukRed fopkj rFkk I`tukRed {kerk dk fodk gksxA
- Co 4;k=k lalej O;fDr;ks LFkkuk] izd'ir ,oa i;kZoj] ls ifjpr gk ldsaxsA
- Co 5 lalej rFkk Mk;jh ys[ku gr izsfjr gksxA

**COURSE OUTCOME-P.G.**

**,e- ,-%fgUnh½ r`rh; lsesLVj  
iz'u i= f}rh;&Nk;koknksUkj fgUnh dk0;**

- Co 1 Nk;koknksUkj dk0; ds fodklØe rFkk mlDs Lo:lk ,oa izo`fUk;k dk le> ldsaxsA
- Co 2 lkekftd] jktuhfrd cnyko d lkFk dk0; izo`fUk;k es gq, ifjorZuks dk csgrj <ax le> ldsaxsA
- Co 3 dk0; {ks= es vk;h uohu Hkkoukvk ,oa aonukvk dk le> ldsaxs ftll uohu 'kksk n'V dk fodk gk ldsxA
- Co 4 Nk;koknksUkj dfo;ksa vkSj mudh jpukvk ifjpr gksxA
- Co 5 dk0; jpuk dh vkSj izo`r gksxA

**COURSE OUTCOME-P.G.**

**,e- ,-%fgUnh½ r`rh; lsesLVj  
iz'u i= rrrh;&ik'pkR; dk0;'kkL=**

- Co 1 ik'pkR; dk0;'kkL=ds Lo:i] mlDh izo`fUk;k rFkk fodklØe ifjpr gksxA
- Co 2 Hkkjrh; rFkk ik'pkR; dk0;'kkL= es varj ,oa lekurk dk Bhd rjg ls le> ldsaxsA

- Co 3 u;h leh{kk ds fl)kar dk le>u | uohu |eh{kkRed n'V fodflr gkxhA
- Co 4fgUnh vkykspuk ds fodk| Øe | ifjpr gx rFkk lekykspukRed {kerk fodflr gksxhA
- Co 5 ik'pkR; leh{kdk ,oa mudh leh{kk i)fr ls ifjpr gkxsaA

**COURSE OUTCOME-P.G.**

**,e- ,-%fgUnh% r`rh; lsesLVj  
iz'u i= prqFk &ck\$fd lEonk] ekuokf/kdkj rFkk i;kZoj**

- Co 1 isVsalv dk lanHkZ] mlds izdkj vkSj rr~lac/kh varjkZVh; uhfr;ksa dk Kku gksxkA
- Co 2 isVsalv dh izfØ;k vkSj "kUkk dk Kku izklr djxA
- Co 3 dkihjbV%Copy right% dk vFk ,o mlds ,sfrgfld ewY;kadu rFkk mlds fo'k; {ks= dk tku ldsaxsA
- Co 4ekuo vf/kdkj d iwj lanHk dk vPNh rjg le> ldxsA
- Co 5 jk'Vh; ekuokf/kdkj vk;ksx dh dk;Zi`tkyh dk tku ldsaxsA
- Co 6 mPp U;k;ky; ,oa {ks=h; U;k;ky;ks dh U;k;izfØ;k] mlds dk;ksZ dk Kku izklr gksxkA
- Co 7 i;kZoj vkSj /kkj`kh; fodk| dh vo/kkj`kk dk le> ldxsA
- Co 8 varjkZVh; ekuokf/kdkj dkuwu rFkk i;kZoj`k ds fo'k; esa xgu tkudkj`h fey ldsxhA

**COURSE OUTCOME-P.G.**

**,e- ,-%fgUnh% r`rh; lsesLVj  
iz'ui= iape& ^yksd lkfgR;\***

- Co 1 yksd lkfgR; dk vFkZ] {ks=} Lo=i ,oa mlds v/;;u ds egÙo ls ifjpr gkxsaA
- Co 2 yksd lkfgR; dh fofHkUu fo/kkvk dk Kku izklr gksxkA
- Co 3 yksd lkfgR; ds lkeftd] lkaLd`frd ,o lkfgR;d egÙo dk le> ldsaxsA
- Co 4 oS'ohdj`k ds nkj es fod`r vkSj foyqlr gksrh yksd |ald`fr vkSj lkfgR; ds |aj{k`k gr izsfjr gkxsaA
- Co 5 yksd lkfgR; esa fufgr uSifxZd lkSan;Zcks/k m|dh ljlrk vkSj lgrk dk le> ldsax rFkk b| {ks= e "kks/k gsr izsfjr gkxsaA

COURSE OUTCOME-P.G.

,e- ,-%fgUnh% prqFk ■sesLVj  
iz'u i= izFke & ^Hkkjrh; lkfgR;\*\*

- Co 1 Hkkjr ns'k dh fofHkUu Hkk'kvk ds lkfgR; vkSj ■kfgR;dkjk rFkk mudh jpukvk ls ifjpr gksxA
- Co 2 fofHkUu Hkkjrh; Hkk'kvk ds lkfgR; ds v/;;u n-okjk Hkkjrh; laD'fr ls ifjpr gksxA
- Co 3 fgUnh ds lkFk&lkFk vU; Hkk'kvks tS ■ rfey] laFkkyh] xqtjkrh] d"ehjh Hkk'kk dh dforkvk dk Kku izklr gksxA
- Co 4 dUuM+ ukVd ds mn-Hko fodk ■ rFkk ukVdh; dyk ,o rRok ■ ifjpr gksxA
- Co 5 ckaXyk miU;k]kl dh fodk ■ ;k=k dk Kku izklr dj ldx rFkk miU;k ■ ds ek/;e ls r'Rdkyhu lkerftd ifjos'k ■ ifjpr gk ■ dsaxsA
- Co 6 Hkkjrh; Hkk'kvk dk "kkL=h; ,o rgyukRed v/;;u dju e ■ {ke gksxA

COURSE OUTCOME-P.G.

,e- ,-%fgUnh% prqFk ■sesLVj  
iz'u i= rrrh;& ^iz;kstu ewyd fgUnh\*\*

- Co 1 fgUnh Hkk'kk ds fofok =iksa dk ifjpr; izklr dj ldsaxsA
- Co 2 iz;kstuewyd fgUnh d Lo:i dk le> mldk 0;ogkfjd mi;ksx dj ldsaxsA
- Co 3 dk;kZy;h fgUnh dk lSn/kakfrd Kku mlds 0;kogkfjd mi;ksx dk ekx iz"kaLr djsxA
- Co 4 0;kolkf;d i=&ys[ku esa n{krk gkfly gksxA
- Co 5 tu&lapkj ek/;e ds {k= esa jkstxkj izklr dju esa lQy gksxA
- Co 6 dalE;wVj] baVjuV ds lac/k es tkudkj izklr dj vkt ds nkSj es mldk csgrj iz;ksx lqfu"pr dj ldsaxsA
- Co 7 vuqokn ds {ks= esa jkstxkj dh laHkkouk c<+xhA

COURSE OUTCOME-P.G.

,e- ,-%fgUnh% prqFk ■sesLVj  
iz'ui= PkrqFk & ^ fgUnh i=dkfjrk\*\*

- Co 1 fgUnh i=dkfjrk ds Lo:i ] fodk ■ Øe ls ifjpr gkx tk fd i=dkfjrk ds {ks= es uohu n'Vdkf fodflr dju esa lgk;d gksxA
- Co 2 fgUnh ds izeq[k i=&if=dkvks ds Lo:i ] egUko ,oa ;ksxnku dk le> ldxsA
- Co 3 i=dkfjrk ds {ks= es jkstxkj dh laHkkoukvk dh ryk'k dh tk ldsxA
- Co 4 bZekunkj vkSj fu'i{k i=dkj cuu dh fn'kk es izo`r gksxA

**COURSE OUTCOME-P.G.**

**,e- ,-%fgUnh½ r`rh; lsesLVj  
iz`u i= iape & ^vuqokn foKku\*\***

- Co 1 vuqokn d vFk] izdkj {ks= rFkk egUo ,oa mi;ksfxrk dk Bhd rjhds ls le> ldsxsA
- Co 2 vuqokn dh izfØ;k ls voxr gkxsA
- Co 3 vuqokn dh {kerk fodflr gksxh tk jkstkj izklr dju esa lgk;d gkxhA
- Co 4 lzksr Hkk`kk ds lkfgR; ls Kku dk le`n`k cuk ldsaxsA
- Co 5 vuqokn djr le; vku okyh dfBukb;kj] leL;kvk rFkk mlds lek/kku ls ifjfpr gkxsA
- Co 6 ikfjHkkf`kd "kCnk dk Kku gksxkA
- Co 7 eqgkojs@yksdksfDRk;ksa dk yk{kf`d iz;ksx dj ldsaxsA

**COURSE OUTCOME-P.G.**

**,e- ,-%fgUnh½ f}rh; lselVj  
iz`u i= iape & ^Nk;kokn dk0;\*\***

- Co 1 Nk;koknh dk0; dh i`BHKwfe ls ifjfpr gkxsA
- Co 2 Nk;koknh dk0; ds izo`fUk;k ls ifjfpr gkxsA
- Co 3 Nk;koknh izeq[k dfo ,oa muds d`fr;ksa l voxr gkxsA
- Co 4 lkeftd cnyko ds lkFk dk0; d {ks= esa gksus okys ifjoru dk le> ldsxsA
- Co 5 ;FkkfZ dh vfHk0;fDr dk le> ldsaxsA
- Co 6 LoNUnrkoknh dk0; dh i`BHKwfe vkSj mldh izo`fUk;k ls ifjfpr gkxsA
- Co 7 "kks/k ds {ks= esa uohu vUos'k dh vksj vxzlj gk ldsaxsA
- Co 8 Nk;koknh dfo;k dk rgyukRed v/;u ls ifjfpr gkxsA

**COURSE OUTCOME-P.G.**

**,e- ,-%fgUnh½ f}rh; lsesLVj  
iz`u i= iape & ^dFkk lkfgR;\*\***

- Co 1 izeq[k xn~; fo|kvk ds fodk Øe ls voxr gkxsA
- Co 2 xn~; dh izeq[k fo|kvk ds rkfRod Lo:lk ls ifjfpr gkxsA
- Co 3 vk/kqfud dk0; ds {ks= esa uokpkjRed v/;u ,oa uohu "kks/k n`i`V izo`fUk fodflr gkxhA
- Co 4 izeq[k dFkdkj rFkk mudh jpukvk ls voxr gkxsA Co
- 5 lkfgR; vkSj lekt ds var% laca/kk dk le> ik;sxsA Co
- 6 dFkk lkfgR; ds {ks= esa uohu "kks/k n`i`V fodflr gksxhA
- Co 7 rRdkyhu ,oa ledkyhu thou ds usrd ewY;ks ls ifjfpr gkxsA
- Co 8 jpuk ds vkLoknu ,oa leh{kk dh {kerk fodflr gksxhA

**PROGRAMME OUTCOME FOR  
B.A. DEPARTMENT OF HISTORY  
GOVT. R.B.R.N.E.S.P.G. COLLEGE JAHPUR NAGAR**

Program me	Programme outcome
B.A. (History)	<ul style="list-style-type: none"> <li>• To promote research in the field of history among the students.</li> <li>• To develop critical thinking on current contemporary issues by taking lesson.</li> <li>• To maintain the glorious cultural of the country and to transfer it to coming generation.</li> <li>• To make the programme job oriented and to prepare for the competitive examination of central and state.</li> <li>• To develop national and international spirit in the students</li> </ul>

**CLASS - B.A.  
COURSE  
OUTCOME**

S.N.	CLAS S	PAPER	PAPER TITLE	COURSE OUTCOME
01	B.A. 1 <sup>st</sup>	Paper 1 <sup>st</sup>	History of India (from beginning to 1206AD)	To study the political, administrative, economic, socio, and cultural History of Ancient India and Chhattisgarh.
		Paper 2 <sup>nd</sup>	History of the world (1453-1890) AD	To develop an understanding of the political changes from 1453AD-1890AD in the modern world.
02	B.A. 2 <sup>nd</sup>	Paper 1 <sup>st</sup>	History of India (1206-1761) AD	To study the political-administrative, economic and cultural history of medieval India and Chhattisgarh.
		Paper 2 <sup>nd</sup>	World History (1890-1964) AD	To develop an understanding of the political administration and economic changes of world history from 1890-1964 AD in the students through this question paper.
03	B.A. 3 <sup>rd</sup>	Paper 1 <sup>st</sup>	History of India (1761-1947)AD	To study the arrival of Europeans in India and its effects on Indian politics administration society and culture.
		Paper 2 <sup>nd</sup>	History of the Indian freedom movement (1857-1947)AD	To study the national movement of India and to familiarize myself with the effects of the national movement in Chhattisgarh.

### PROGRAMME OUTCOME FOR M.A.

PROGRAMME	PROGRAMME OUTCOME
M.A. (History)	<ul style="list-style-type: none"> <li>• Identify and define basic term and concept which are needed for advanced course and history.</li> <li>• independent judgement, and regional sensitivity global and national perspective to solve problems concerning humanities.</li> <li>• Integrate knowledge of Indian and ancient history.</li> <li>• Preparation for competitive examination at the central and state level.</li> <li>• To promote research interest in history among the students.</li> </ul>

### CLASS – M.A. 1 SEMESTER (HISTORY) COURSE OUTCOME-

S.N	Course code/ course type	Course title	Course outcome
01	MAH 101/CCC	Concept of History	Introducing the student to the development of History, paying attention to the various theories of History and its relation to other humanities subjects.
02	MAH 102/CCC	Modern world	Capitalism socialism and imperialism in the world and significant global politics.
03	MAH 103/CCC	Ancient and medieval Chhatisgarh	To acquaint with the ancient, medieval political the socio-economic cultural situation of Chhatisgarh.
04	MAHA 02/ECC	History of china Japan (1800-1911)	To study the entry and influence of Europeans in china and to study the imperialist perspective of Japan.
05	MAHA02/OSC	Research Methodology and computer application basics.	Understand the concept and place of research in the concerned subject. Getting acquainted with various resources for research becomes familiar with various tools for research.

**CLASS – M.A. II SEMESTER  
(HISTORY) COURSE OUTCOME-**

<b>S. N .</b>	<b>Course code/course type</b>	<b>Course title</b>	<b>Course outcomes</b>
01	MAH 201/CCC	Historiography	To develop an understanding of the various dimension of historiography among the students of history.
02	MAH 202/CCC	Contemporary world	To understand and outline the political-economic socio-cultural changes of the contemporary world.
03	MAH 203/CCC	Modern chhatisgarh	British policy towards the princely states of Chhatisgarh, the effect of national folk culture and tradition.
04	MAH S02/OSC	Social outreach and skill development	To promoteresearchinstinct inthestudentbygivingthis paperandtopreparehimtomoveforwardinthepractical field.
05	MAH B02/ECB	History of chaina and Japan (1911- 11950)AD	TounderstandtheroleofchinaandJapaninthehistoryof far east Asia, tostudythe relationship between china and japan on a global scale.

**CLASS- M.A. III SEMESTER  
(HISTORY) COURSE OUTCOME –**

<b>S.N.</b>	<b>Course code/course type</b>	<b>Name of the course</b>	<b>Course outcomes</b>
01	MAH301/CCC	Historyofa national movement (1857– 1922) AD	To acquaint the students with the various dimensions of the national movement of India.
02	MAH 302/CCC	Ancient India (2500BC-1000AD)	To understand the political socio- cultural economic change of ancientIndia.
03	MAH 303/CCC	Indian polity and economy in the sultanate period (1200- 1526)AD	To make the students aware of the sultanate period administration and its economic social and cultural system.
04	MAH 503/OSC	Intellectual property human rights and environment studies	Patents, copyright, and human right develop an understanding of the environment and human rights.

05	MAHC03/ECB	Thinkers of modern India (1920-2000)AD	To acquaint with the thinkers who are helpful in the development of Indian society and contributing to the making of modern India.
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**CLASS – M.A. IV SEMESTER  
(HISTORY ) COURSE OUTCOMES**

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S.N	Course code	Course title	Course outcome
01	MAH 401/ CCC	History of Indian national movement (1922- 1947) AD	To acquaint the student with the history of the Indian national movement.
02	MAH 402/ CCC	Indian polity and economy in the Mughal period.	To acquaint the student with the history and central administration of the Mughal period.
03	MAH 403/ CCC	Modern India (1858- 1964)AD Political and Administration	To develop an understanding of the changes in politics in modern India towards administrative reform.
04	MAH 504/OSC	Dissertation	The purpose of this paper is to boast about the research instincts of the students.
05	MAHD03/ECB	Tourism theory and principles of History	Bring to light the historical tourist places of India and Chhatisgarh.

## COVRSE AND PROGRAM OUTCOMES OF MATHEMATICS (B.Sc.I)

### Core course-I ( Algebra and Trigonometry)

**Learning outcomes:** on completion of this area of The course, the student will be able to

- Understand the nature of theory of equations, Group theory, Ring theory, Field theory and trigonometry.
- Find the inverse of the matrix
- Find the rank and nullity of the matrix.
- Solve various simultaneous linear equation.
- Derive relation between the roots and coefficients of general polynomial equation in one variables.
- Solve cubic equation cardan methods.
- Derive the De- Moivre's theorem and its applications.
- Derive logarithms of a complex quantity.
- Derive expansion of trigonometrical functions.
- Derive the fundamental theorem of homomorphism's.

### B.Sc.I

#### Core course - II ( Calculus)

**Learning outcomes:** on completion of this area of The course, the student will be able to

- Understand the nature of limit, continuity, Differentiability, Asymptotes, Curvature, Tracing, integration of transcendental functions, Differentialequationsetc.
- Solve Various problem of limi, continuity and differentiability.
- Solve various limit problems using L- hospital rule.
- Find equation of asymptotes, curvature.
- To identify the type of a given differential equation and select and apply the appropriate analytical techniques for finding the solution the students will be well conversant with the following types of differential equations.
  - Degree and order of a differentialequations, first order higher degree equations solvable for  $x, y, & p$ , Clairaut forms and singular solution homogeneous linear ordinary differentialequations.
  - Linear differentialequations of second order, Transformation of the equation by changing the dependent variables/the independent variables, method of variation of parameters, ordinary simultaneous differentialequations.

### B.Sc.I

#### Core course - II( Vector Analysis and Geometry)

**Learning outcomes:** on completion of this area of The course, the student will be able to

- Find the triple product of vectors and their application.
- Deducethe vector equations subject to different condition.

- Understand the applications of vector algebra (Particularly, vector products)
- Learn operations with vector valued functions.
- Differentiate and integrate vector functions of one variable.
- Become familiar with the polar equation of conics and their tangents and normal.
- Understand the geometrical terminology and have a detailed clear cut idea of the planes, Straight lines in 3D, spheres, cylindrical surfaces, central conicoids, paraboloids, plane sections of conicoids along with the tangent and normal of the conicoids.
- Have an idea of classification of quadrics.
- Develop an idea of the generating lines.
- Be familiar with the illustrations of graphing standard quadric surfaces like cones, paraboloids, hyperboloids and ellipsoids.

## COURSE AND PROGRAM OUTCOMES OF MATHEMATICS ( B.Sc. II nd)

### Core course – I ( AdvancedCalculus)

**Learning outcomes:** on completion of this area of the course, the student will be able to

- Understand the nature of sequence, series, envelope, evolutes, beta and Gamma functions.
- Solve various limit, continuity, Differentiability problems.
- Solve various limit problems using L- hospital rule.
- Find sum of various series using different theorems.
- Find convergence or divergence of the various series.
- Derive relation between beta and gamma function.
- Find the value of various double and triple integrals..
- Solve me integral using beta and gamma functions.
- Find higher derivatives and apply the Leibnitz rule to solve problems related to such derivatives.
- Solve various limit, continuity, differentiability problems for two variables.

### ( B.Sc. II nd)

### Core course –II ( Differentialequation)

**Learning outcomes:** on completion of this area of the course, the student will be able to

- Understand the nature of power series, Frobenius series, Bessel's series for differential equations.
- Derive and solve different types of partial differential equations which may arise in real life problems.  
Partial Differential equations of the first order, Lagrange's solution non-linear first order partial differential equations, Charpit's general method of solutions. Some special type of equations which can be solved easily to methods other than the general methods.
- Solve Sturm-Liouville problems.
- Solve Laplace equations.
- Derive recurrence relation for Bessel's differential equations.

( B.Sc. II nd)

**Core course –III ( Mechanics)**

**Learning outcomes:** After completion of this course, the student will be able to learn and explain different concepts on mechanics covered by the following.

- Analytical conditions of equilibrium stable and unstable equilibrium, virtual work, catenary.
- Forces in three dimensions, Poinsot's central axis, null line and plane.
- Simple harmonic motion, Elastic Strings, Velocities and accelerations along radial and transverse directions, projectile central orbits.
- Kepler's laws of motion, velocities and acceleration in tangential and normal directions, motion on smooth and rough plane curves.
- Motion in a resisting medium, motion of particles of varying mass, motion of a particle in three dimension, acceleration in terms of different co-ordinate system.

**COURSE AND PROGRAM OUTCOMES OF MATHEMATICS ( B.Sc. IIIrd)**

**Core course – I ( Analysis)**

**Learning outcomes:** After completion of this course the student will be able to

- Think about the basic proof, techniques and fundamental definitions related to real and complex numbers.
- Understand the nature of sequence, series, limit, continuity and differentiability ( Two variables) Fourier series, Riemann Integral and improper integral, metric spaces and topology.
- They can demonstrate some of the fundamental theorems of analysis.
- The student will gradually develop analysis skills in sets, sequence and infinite series of real and complex numbers.
- Solve various limit, Continuity and differentiability problems for two variables.
- Solve various Fourier series, Riemann integral, improper integral.
- Derive various fundamental theorems of Riemann integral.
- Derive properties of Riemann integral.
- Develop the capacity to integrate while understanding the examples of Riemann integrable functions.
- Learn the test of convergence: comparison and M-Test, Absolute and non- absolute convergence and inter-relations.
- Understand the statement of Abel's and Dirichlet's test for convergence on the integral of a product.

( B.Sc. IIIrd)

**Core course – II (Abstract algebra)**

**Learning outcomes:** After completion of this course the student will be able to

- Understand the nature of group theory, Ring theory, module vector spaces, linear transformation and inner product spaces.
- Develop a concept of group theory and ring theory of abstract algebra in details.
- Understand vector space over a field and subspace and apply their properties.

- Understand linearly independence and dependence
- Find the basis and dimension of a vector space and understand the change of basis.
- Compute linear transformation, kernel and range and inverse linear transformation and find matrices of general linear transformations.
- Find eigen values and eigen vectors of a matrix and of linear transformation.
- The Cayley-Hamilton theorem and its use in finding the inverse of a matrix.
- Understand various concepts of abstract and linear algebra.

### (B.Sc. IIIrd)

#### Core course – III ( Discrete Mathematics)

**Learning outcomes:** On successful completion of the course students will be able to develop conceptual understanding.

- **Sets and Properties :** Cardinality, mathematical induction, principle of inclusion and exclusion, permutations, combinations and discrete probability .
- **Relations and Function:** Binary Relations, Equivalence relations and partitions, partial order relations and lattices, chain and antichain pigeon hole principle.
- **Finite state machine:** Equivalent machine, Finite state machines as language recognizers.
- Recurrence Relations and recursive algorithms.
- **Boolean Algebra:** Lattices and algebraic structure, duality, Distributive and complemented lattices, Boolean lattices and Boolean algebras, Boolean functions and expressions, propositional calculus, design and implementations of digital networks, switching circuits .

#### PROGRAM OUTCOMES OF MATHEMATICS (B.Sc.)

On completion of this course the students will be able to think about the basic Proof, Techniques and fundamental definitions related to the followings.

- Matrices \* Theory of equation.
- Set theory \* Relation \* Functions
- Group theory \* Ring theory \* Field theory
- Complex Numbers \* Trigonometry
- Limit, continuity and differentiability for one variables.
- Limit, continuity and differentiability for two variables.
- Sequence \* Series \* Jacobians
- Beta and Gamma functions
- Double and triple Integrals .
- Power series \* Frobenius series
- Bessel's differential equation
- Sturm liouville problems
- Ordinary differential equations (ODE)
- Partial differential equation (PDE)

- Calculus of variations
- Fourier series \* Riemann Integral
- Improper integral \* metric spaces
- Topological spaces
- Modules \* vector spaces
- Vector subspaces \* linear transformation
- Inner product spaces
- Mathematical induction
- Combinations \* permutation
- Probability \* Generating lines
- Generating functions
- Boolean algebra

### **PROGRAM OUTCOMES OF MATHEMATICS (M.Sc.)**

On completion of this course the students will be able to think about the basic proof. Techniques and fundamental definitions related to the followings.

- Groups theory \* Ring theory \* Field theory
- Normal and subnormal series
- Solvable groups \* transformations
- Modules \* the Riemann- Stieltjes integral
- Canonical form
- Sequence and series of functions
- Power series \* functions of several variables
- Jacobians \* set theory \* countable and uncountable sets
- Topological spaces \* compactness
- Completeness \* lattice \* Graphs
- Trees \* Boolean algebra
- Extension field \* Galois fields
- Noetherian and Artinian rings
- Measure theory \* some measurable spaces
- Connectedness \* product topology
- Signed measure \* Inner Product spaces
- Banach spaces \* Hilbert spaces
- Partial differential equations.
- Mechanics \* Linear Programming Problems (LPP)
- Integer Programming Problems (IPP)
- Networks problems

- Assignment and transportation problems
- Finite difference
- Interpolation Formula with equal interval
- Interpolation formula with unequal interval
- Central difference interpolation formula
- Numerical Differentiation and integration

**COURSE OUTCOME OF MATHEMATICS  
SEMESTER – Ist**

**Core- Course-01 (Advanced Abstract Algebra)**

Course code :- MSM 101 Course type ccc.

**Learning Outcomes:** After Completion of this course the students will be Able to think about the basic proof, Techniques and Fundamental definitions related to the advanced abstract algebra.

They can Demonstrate some of the fundamental theorem by the following.

- **Groups** – Normal and subnormal series. Composition series, Jordan- Holder theorem, Solvable groups, Nilpotent groups. Direct product, Commutator sub-group of group.
- **Modules**- Cyclic modules simple modules, semi-simple modules Schuler's lemma, Free modules. Quotient module, homomorphism of module.
- **Linear Transformations**- Algebra of linear transformation characteristic roots, matrices and linear transformation.
- **Canonical Forms**- Similarity of linear transformation Invariant subspaces. Reduction to triangular forms, Nilpotent transformation. Index of nilpotency. Invariants of a nilpotent transformations. The primary Decomposition theorem Jordan block and Jordan forms.
- **Smith normal form** over a principal ideal domain and rank. Fundamental structure theorem for finitely generated module over a principal ideal domain and its applications to finitely generated abelian groups.

**COURSE OUTCOME OF MATHEMATICS  
SEMESTER – Ist**

**Core- Course-02 (Real Analysis)**

Course code :- MSM 101 Course type ccc.

**Learning Outcomes:** After Completion of this course the students will be Able to think about the basic proof. Techniques and Fundamental

definitions related to the real analysis they can demonstrate some of the fundamental Theorems of analysis the student will gradually develop analysis skills in the Riemann- stieltjes integral, Sequences and series of functions, power series, functions of several variables, covered the following.

- The Riemann- stieltjes Integral, Definition and existence of Riemann- Stieltjes Integral, Properties of the integral, integration and differentiation, the fundamental theorem of calculus. Integration of Vector- valued functions. Rectifiable curves.
- Sequences and series of functions, point wise and uniform convergence, Cauchy's criterion for uniform. Convergence, M-test Tn-test, weierstrass M- test, Abel's and Dirichlet's for uniform Convergence uniform convergence and continuous uniform convergence and Riemann- stieltjes integration uniform convergence and differentiation, weierstrass approximation theorem.
- Power series Radius of convergence series of arbitrary terms, convergence divergence and Oscillation, uniqueness theorem for power series, abel's and tauber's theorems. Rearrangements of terms of a series. Riemann's theorem.
- Functions of several variables. Linear transformation Derivative in an open subset of  $R^n$ , Chain Rule Partial derivatives, directional derivative, interchange of the order of differentiation, Derivatives of higher orders, Taylor's theorem Inverse function theorem, implicit function theorem.
- Jacobean extremum problems with constraints Lagrange's multiplier method Differentiation of integrals. Partitions of unity, Differential forms.

**COURSE OUTCOME OF MATHEMATICS  
SEMESTER – Ist**

**Core- Course-03 (Topology)**

Course code :- MSM 103 Course type ccc.

**Learning Outcomes:** After Completion of this course the students will be able to think about the basic proof. Techniques and Fundamental

definitions related to the Topology.

they can demonstrate some of the fundamental Theorems concerned by the following.

- Countable and uncountable sets. Infinite sets and the Axiom of choice. Cardinal numbers and its arithmetic. Schroeder Bernstein theorem, Cantor's theorem and the continuous hypothesis Zorn's lemma, well- ordering theorem.
- Definition and examples of topological spaces. Closed sets. Closure dense subsets. Neighborhoods Interior, exterior and boundary. Accumulation points and derived sets. Bases and sub-bases, sub spaces and relative topology.
- Alternate methods of defining a topology in terms of Kuratowski closure operator and neighborhood systems. Continuous functions and homeomorphism. First and second spaces. Lindelof's theorems. Separable space, second countability and separability.
- Separation axioms- Their characterizations and basic properties

Urysohn's lemma, Tietze extension theorem.

- Compactness, continuous functions and compact sets basic properties of compactness. Compactness and finite intersection property. Sequentially and countably compact sets. Equivalence of Compactness, countable. Compactness and sequential compactness in metric space. Local compactness and one point compactification, Stone-Čech compactification.

## **COURSE OUTCOME OF MATHEMATICS SEMESTER – Ist**

### **Core- Course-04 (Advanced Discrete maths)**

Course code :-A01 Course type Ecc/CB

**Learning Outcomes:** After completion of this course the students will be able to think about the basic proof. Techniques and Fundamental

definitions related to the Advanced Discrete mathematics, covered the following.

- Formal logic- Statements Tautologies quantifiers, predicates and validity, propositional logic semigroup monoids.
- Congruence relation and quotient semigroups, subsemigroups, submonoids, direct products.
- Lattices:- Lattices on partially ordered sets their properties algebraic systems sublattices, Boolean algebra.
- Atoms and minterms, Boolean Algebra and their equivalence minterms boolean forms sum of products canonical forms minimization of Boolean functions.
- Grammars and languages- Phrase- structure grammars. Rewriting rules Derivations, sentential forms language generated by a grammar Regular context free and context sensitive grammars and language.

## COURSE OUTCOME OF MATHEMATICS

### SEMESTER – Ist

#### Core- Course-05 (Research Methodology and Computer Application Basics)

Course code :- MSM-S01 Course type OSC

**Learning Outcomes:** After Completion of this area of the course the students will be able to

- Understand the nature of research .
- To think about the fundamental definition and concept of the following:
  - a. Tools of research.
  - b. Sampling.
  - c. Method of research. IV. Computer fundamentals.
  - d. Office Software package.

## COURSE OUTCOME OF MATHEMATICS

### SEMESTER –IInd

#### Core- Course-05 (Research Methodology and Computer Application Basics)

Course code :- MSM-201 Course type CCC

**Learning Outcomes:** On the Completion of this course the students will Understand the basic concept of ring theory and field theory in advanced abstract algebra covered by the following.

- Noetherian and Artinian rings and modules, Rings Hilbert basis theorem Wedderburn's theorem Uniform Modules Primary modules Noether- Lasker theorem.
- Field Theory- Extension fields, algebraic and transcendental extension, separable and inseparable extensions.
- Normal extensions splitting field perfect fields, finite field primitive element algebraically closed fields automorphisms of extensions.
- Galois field and extensions, fundamental theorem of Galois theory. Solution of polynomial equations by radicals.

## COURSE OUTCOME OF MATHEMATICS

### SEMESTER –IInd

#### Core- Course-02 (Real Analysis)

Course code :- MSM-202 Course type CCC

**Learning Outcomes:** After Completion of this course the students will be able to think about the basic proof, Techniques and fundamental definitions related to real analysis. They can demonstrate some of the fundamental theorems of analysis The student will gradually develop analysis skill in measurable sets, measurable function Lebesgue integral, Differentiation and integration Lebesgue  $L^p$ -spaces covered the following:

- Measurable sets:- Measures and outer measures Lebesgue outer measure regularity Lebesgue measurable sets, Properties of measurable sets, Borel sets and their measurability non-measurable sets.
- Measurable Functions:- Definition and properties step and characteristic function continuous function sets of measure zero sequence of function, Egoroff's theorem, Riesz theorem Lebesgue

bounded and dominated convergence theorem.

- Lebesgue Integral Lebesgue sum integral of bounded and unbounded function integral of non-negative bounded function comparison of Riemann and Lebesgue integral general Lebesgue integral.
- Differentiation and integration :- Absolute continuous function and its derivatives differentiation of an integral, function of bounded variation, differentiation of an integral, Integral of the derivatives.
- Lebesgue  $L_p$ - Spaces:- The classes  $L_p$  convex functions Jensen's inequality, Holder and Minkowski's inequalities, Cauchy-Schwarz inequality,  $L_p$ -Banach Space, Riesz-Fischer theorem.

**COURSE OUTCOME OF MATHEMATICS**  
**SEMESTER – II**  
**Core- Course-03 (Topology)**

Course code :- MSM-203 Course type CCC

**Learning Outcomes:** After Completion of this course the students will be able to think about the basic proof, Techniques and fundamental definitions related to the Topological space. They can demonstrate some of the fundamental theorems of topology the student will gradually develop analysis skills covered by the following.

- Connected spaces, connectedness on the real line, components, Locally Connected spaces.
- Product spaces, Tychonoff product topology in terms of standard sub base and its characterizations projection maps. Connectedness and product spaces. Compactness and product spaces (Tychonoff theorem) Countability and product spaces.
- Embedding and metrization, embedding lemma and Tychonoff embedding. The Urysohn metrization theorem, metrization theorems and paracompactness local finiteness, the Nagata-Smirnov metrization theorem, Paracompactness, the Smirnov metrization theorems.
- Nets and Filter Topology and convergence of nets. Hausdorff space and nets, filters and their convergence Canonical way of converting nets of filters and vice versa, Ultra filters and compactness.
- The Fundamental group and covering spaces- Homotopy of paths. The fundamental groups, Covering spaces the fundamental groups of the circle and the fundamental theorem of algebra.

## COURSE OUTCOME OF MATHEMATICS

### SEMESTER –IIInd

#### Core- Course-04 (Advanced Discrete Mathematics)

Course code :- MSM-B01 Course type ECC/CB

**Learning Outcomes:** After Completion of this area of the course the students will be able to think about the basic proof, Techniques and fundamental definitions related to Advanced Discrete Mathematics covered by the following:

- Graph Theory- Definition of graphs, degree of a vertex, Connectivity bipartite graphs, Kirtowski's theorem and its use.
- Trees- Definition spanning trees, minimal spanning trees, Euler's theorem on the existence of Eulerian paths and circuits.
- Computability theory- Finite state machines and their Transition, Table Diagrams, Equivalence of Finite state machines Reduced machines, homomorphisms.
- Finite Automata Acceptors – Non deterministic, finite automata and Equivalence of its power to that of deterministic more and mealy machines, Turing machine and partial recursive functions.

## COURSE OUTCOME OF MATHEMATICS

### SEMESTER –IIInd

#### Core- Course-05 (Social Outreach and Skill Development)

Course code :- MSM-S02 Course type OSC

**Learning Outcomes:** On the completion of this area of the course all the student learned to make project:

1. file on various topics of social outreach and skill development programs .

## COURSE OUTCOME OF MATHEMATICS

### SEMESTER –IIIInd

#### Core- Course-01 (Integration Theory and Functional Analysis)

Course code :- MSM-301 Course type CCC

**Learning Outcomes:** After Completion of this course the students will be able to think about the basic proof, Techniques and fundamental definitions related to the Integration theory and Functional Analysis They can demonstrate some of the fundamental theorem covered by the following:

- Measure theory:- Signed measure Hahn decomposition theorem mutually singular measures, Radon- Nikodym theorem, Lebesgue decomposition, Riesz Representation theorem, Extension theorem.
- Lebesgue- Stieltjes integral product measures regularity of measures on locally compact spaces.
- Baire sets Baire measures continuous function regularity of measures on locally compact spaces integration of continuous functions with compact support Riesz-Markoff theorems.
- Functional Analysis- Normed linear space Banach spaces and examples quotient space of normed linear space and its completeness, equivalent norm. Riesz lemma, basic properties of finite dimensional normed linear spaces and compactness.
- Weak Convergence and bounded linear transformations normed linear spaces of bounded linear transformations dual spaces with examples.

**COURSE OUTCOME OF MATHEMATICS  
SEMESTER –IIIInd**

**Core- Course-02 (Partial Differential Equation and mechanics)**

Course code :- MSM-302 Course type CCC

**Learning Outcomes:** After Completion of this course the students will be able to Understand derive and solve different types of partial differential equations which may arise in real life Problems:

- Partial Differential Equation:- Examples of PDE. Classification , Transport equation initial value problem. Non- homogeneous equation. Laplace's equation- Fundamental solution, mean values of formulas, Properties of harmonic function, Green's Functions Euler Langerange equation.
- Heat equation :- Fundamental Solution, mean value formula, properties of solutions, Energy methods wave equation – solution by spherical means non- homogeneous equations.
- Non- linear first order PDE – Complete integrals envelopes characteristics , Hamultaneous equations { Calculas of Variations , Hamultaneous PDE Legends Transform, Hopf-Lax Formula weak solutions, uniqueness}, Conservation laws { shocks, Entropy condition, Laxolemik formula, weak solutions, uniqueness, remains problem long time behavior }
- Gravitations:- Attraction and potential of rod, disc, spherical shells and sphere.
- Surface integral of normal attraction ( Application & Gauss's theorem) :- Laplace and Poisson equation work done by self attraction system Distribution for a given potential.

**COURSE OUTCOME OF MATHEMATICS  
SEMESTER –IIIInd**

**Core- Course-03 (Operation Research)**

Course code :- MSM-303 Course type CCC

**Learning Outcomes:** After Completion of this course the students will be able to formulate the LPP Conceptualize the feasible region solve the LPP using different methods Understand the importance of LPP in daily life in detail the student will be able to Understand and visualize the.

- Operation Research and its scope problem formulation & graphical solution of linear programming problems some properties of convex sets and concave functions, solution of LPP- Simplex method, two phase method.
- Solution of LPP- Simplex method, two phase method, big method.
- Duality in linear programming and simplex method sensitivity analysis.
- Parametric Linear Programming upper Bound technique, interior point algorithm, linear goal programming.
- Transportation and assignment problems.

**COURSE OUTCOME OF MATHEMATICS  
SEMESTER –IIIInd**

**Core- Course-04 (Numerical Analysis)**

Course code :- MSM-C01 Course type ECC/CB

**Learning Outcomes:** On completion of this area of the course the student will be able to

- Understand the nature of calculus of finite differences
- Derive fundamental theorem of difference calculus
- Derive forward difference, backward difference and central differences.
- Derive interpolation formula with equal intervals.
- Derive interpolation formula with unequal intervals.
- Derive central difference interpolation formula using different method.

**COURSE OUTCOME OF MATHEMATICS  
SEMESTER –IIIInd**

**Core- Course-05 (Intellectual Property human Rights & Environment Basic)**

Course code :- MSM-502 Course type OSC

**Learning Outcomes:** On completion of this area of the course the student will be able to Understand the nature of patents and copyrights. To think about the fundamental definition and concept of the following:-

- Patents
- Copyrights
- Rights
- Human rights
- National Human rights commission
- State human rights commission
- High court
- Regional court
- Right to Environmental as human rights

**COURSE OUTCOME OF  
MATHEMATICS SEMESTER –  
IVth**

**Core- Course-01 (Integration Theory and Function Analysis)**

Course code :- MSM-401 Course type CCC

**Learning Outcomes:** After Completion of this course the student will be able to think about the basic proof. Techniques and fundamental definition related to the integration theory and functional analysis.

They can demonstrate some of the fundamental theorem concerned by the following:-

- Uniform boundedness Theorem and some of its consequences open mapping and closed graph theorem.
- Hahn- Banach theorem for linear spaces, Complex linear spaces and normed linear spaces, Reflexive spaces weak sequential compactness, compact operators. Solvability of linear equations in Banach spaces The closed Rongé Theorem.
- Inner product spaces, Hilbert spaces Orthonormal sets Bessel's inequality complete orthonormal sets and Parseval's identity.
- Structure of Hilbert spaces. Projection theorem, Riesz representation theorem, adjoint of an operator on a Hilbert space Reflexivity of Hilbert spaces.
- Self adjoint operators positive, projection, Normal and unitary operators, Abstract variational boundary- Value problem the generalized lax- Milgram Theorem.

**COURSE OUTCOME OF  
MATHEMATICS SEMESTER –  
IVth**

**Core- Course-02 (Partial Differential equation)**

Course code :- MSM-402 Course type CCC

**Learning Outcomes:** After Completion of this course the student will be able to Understand derive and solve different types of partial differential equation which may arise in real life problems.

Partial Differential equation of the first order, Lagrange's solution.

- Representation of Solutions separation of variable, Similarity solution (Plane and travelling waves, Soliton similar under scaling) Fourier and Laplace transform Hopf- Cole Transform hodograph and Legendre transforms, Potential Function.
- Analytical Dynamics:- Generalized Coordinates Holonomic and non- holonomic systems scleronomic and Rheonomic systems. Generalized potential Lagrange's equation of first kind. Lagrange's equation for second kind. Uniqueness of Solution. Energy equation for Conservative fields Hamilton's variables Donkin's theorem Hamilton canonical equations. Cyclic coordinates. Routh's equation.
- Analytical Dynamics:- Hamilton's Principle of least action motivating problems of calculus of variation shortest distance. Minimum surface of revolution Brachistochrom problem. Isoperimetric problem, Geodesic Fundamental lemma of calculus of variations Euler's equation for one dependent function and its generalization to (i)  $n$  dependent function (ii) Higher order derivatives conditional extremum under geometric constraints and under integral constraints.
- Analytical Dynamics:- Poisson's Bracket . Poisson's identity Jacobi's theorem Lagrange brackets Condition of canonical character of a transformation in terms of Lagrange brackets and Poisson brackets- Invariance of Lagrange brackets and Poisson

brackets under canonical transformations.

- Classical Mechanics:- Generalized coordinates Lagrange's equations Hamilton's canonical equations Hamilton's principle and principle of least action two dimensional motion of rigid bodies, Euler's dynamical equation for the motion of a rigid body about axis theory of small oscillations.

### **COURSE OUTCOME OF MATHEMATICS SEMESTER – IVth**

#### **Core- Course-03 (Operation Research)**

Course code :- MSM-403 Course type CCC

**Learning Outcomes:** After Completion of this course the student will be able to formulate the dynamic programming solve the network problems using different methods the student will be able to understand and visualize the.

- Network Analysis:- Shortest path problem, Minimum spanning tree problem, maximum flow problem, minimum cost flow problem network simplex method project planning and control with PERT- CPM
- Dynamic Programming :- Deterministic and probabilistic Dynamic programming
- Game Theory:- Two Person, Zero sum Game, Games with mixed strategies Graphical Solution, Solution by linear programming.
- Integer Programming:- Branch and Bound techniques Gomory's method of solving I.P.P.

### **COURSE OUTCOME OF MATHEMATICS SEMESTER – IVth**

#### **Core- Course-04 (Numerical Analysis)**

Course code :- MSM-D01 Course type ECC/CB

**Learning Outcomes:** After Completion of this course the student will be able to apply numerical methods to obtain approximate solutions to various mathematical problems. The student will get an overall idea of

- Difference Equations –I:- Homogeneous linear Difference equations Homogeneous linear difference equation with constant coefficients existence and uniqueness theorem, Different methods for finding for particular solution in case of non-homogeneous linear equation.
- Difference Equation II :- Method of variation of parameters, method of generating function, Non- Homogeneous linear difference equations with variable coefficients, solution of some special types of difference equations, solution of homogeneous difference equations (degree two) simultaneous difference equations, Differential difference equations.
- Numerical solution of ordinary Differential Equation of first order :- Picard's method of successive approximations Euler's method, improved Euler's method, modified Euler's method, Taylor's series method Runge – Method, Runge's method.
- Solution Of algebraic and Transcendental Equation :- Bisection method. Method for finding initial approximate value of root Newton's iterative formula for obtaining square root, Rate of convergence of Newton's method.

- Simultaneous Linear Algebraic Equations :- The elimination method by gauss Jordan's method, crout's method , Method of factorization Jacobi iterative method. Gauss Seilder iterative Method, Relaxation Method due tosouthwell.

**COURSE OUTCOME OF  
MATHEMATICS SEMESTER –  
IVth**

**Core- Course-05(Dissertation)**

Course code :- MSM-421 Course type OSC

**Learning Outcomes:** On the Completion of this area of the course

- All the Students learned to make dissertation file on various topics of mathematics.

# BA POLITICAL SCIENCE

<b>BA PART ONE</b>		
<b>Paper</b>	<b>Course Title</b>	<b>Code</b>
<b>I</b>	<b>Political theory</b>	
<b>II</b>	<b>Indian Government and Politics</b>	
<b>BA PART TWO</b>		
<b>Paper</b>	<b>Course Title</b>	<b>Code</b>
<b>I</b>	<b>Political thought</b>	
<b>II</b>	<b>Comparative Government and Politics</b>	
<b>BA PART THREE</b>		
<b>Paper</b>	<b>Course Title</b>	<b>Code</b>
<b>I</b>	<b>International Politics and Foreign policy of India</b>	
<b>II</b>	<b>Public Administration.</b>	

## Programme Specific Outcome

1. Develop an understanding of the nature and developments in national and international politics
2. Critical evaluation of social, economic and political variables for a proper understanding of the plurality of Indian society
3. Building overall consciousness regarding national political history, international relations and present Indian & Western political thinkers
4. Exposed to comprehensive, comparative understanding of specific world constitutions such as United Kingdom, America, China, Russia and Switzerland
5. Developing knowledge of administrative studies with special reference to Indian administrative structures and practices
6. Examining India's foreign relations with her neighbours and great powers

## BA PART ONE

### Paper I Political theory

Learning Outcomes: After completion of the course:

1. Students will be able to learn key Concepts needed to understand the political phenomenon.
2. They will come to know about the role and functions of political theory
3. They will be able to describe the theories of the origin of how liberal and Marxist traditions look at and understand politics,

4. They will be able to explain the concepts of sovereignty, rights, duties, liberty, equality and democracy; and how these elements operate in society and politics.
5. They will be able to explain the different kinds of Government and the theories of power.
6. They will come to understand and explain the concept of Welfare State. They will also become familiar with party system, pressure groups and the ideas of social change,

## **Paper II Indian Government and Politics**

Learning Outcomes:

Having completed the course, the learners would be able to

1. Explain the core philosophy and ideals of the Indian National Movement.
2. Get familiarized with the Constitution of India and know about the fundamental rights and how these rights are different from the directive principles of the state policy.
3. Explain the structures, powers, and functions of three organs of government, Union Executive, Union Legislature and their mutual relationship and engagements.
4. Describe the structures of Union Judiciary and State Executive and the roles and responsibilities of the constitutional heads at different levels.
5. Explain the constitutional structures of government that work at the union and state levels in India.

## **BA PART TWO**

### **Paper I Political thought**

Learning Outcomes:

After the completion of this course, the students will be able to:

1. Comprehend and recall the key ideas of all the political philosophers given in the course.
2. Explain the political thoughts according to Plato and Aristotle and how their thoughts were linked to the political development.
3. Answer how Aristotle differed from his master Plato on the conception of justice.
4. Make a distinction among Hobbes, Locke, and Rousseau on the nature of state, the law of nature, nature and form of contract and the emergence of state from the contract.
5. Answer how and why Machiavelli gave an overriding priority to pragmatism above ethics and values in operation of statecraft.
6. Analytically describe the ideas of Idealism, Individualism, Liberalism, Socialism and Fascism.

7. Develop a tendency of research study on the works of ancient Indian Political thinkers as well as the modern Indian Political thinkers.

## **Paper II Comparative Government and Politics**

Course Outcomes:

After the completion of this course, the students will be able to:

1. Enumerate and explain the salient features of British Constitution.
2. Get acquainted to the main features of the Constitution of the United States of America
3. Describe the key characteristics if the Swiss Constitution.
4. Develop essential understandings on the key elements of Chinese Constitution.
5. Critically analyze the meaning and definition of Comparative Politics.
6. Demonstrate a proficient skill in analyzing and evaluating various theories and approaches to Comparative Politics and political developments

## **BA PART THREE**

### **Paper I: International Politics and Foreign policy of India**

After completion of the course the students will be

1. Have a comprehensive understanding of the necessity of International Politics as a discipline.
2. Describe in details and evaluate the various theories of International Politics.
3. Appreciate the salient features of India's foreign policy and explain the determining factors and elements.
4. Elaborate how, why and to what extent India's foreign policy has changed in the new global and regional contexts.
5. Evaluate India's relations with her South Asian neighbors as well as with the major super powers.
6. Enumerate and analyse various prominent issues affecting the International Politics.

### **Paper II Public Administration.**

Course Outcomes:

After the completion of this course, the students will be able

1. Comprehend the meaning and definition of Public Administration and distinguish public administration from private administration.
2. Critically explain the principles of Organisation.

3. Explain how the organization has been understood by different schools and how all these reinforce the overall understanding of the organization.
4. Examine nature, issues and characteristics of development Administration in the light of Riggs model of public participation.
5. Understand the concept of budget vis-à-vis necessity of budget making in public Administration. Describe the steps involved in budget making process.
6. Critically evaluate various issues of corruption in administration.

## MA POLITICAL SCIENCE

### PROGRAM OUTCOMES POLITICAL SCIENCE

○ **Understanding National and International Political systems**

It makes to understand the inter-connection between local, state, national and international politics.

○ **Leadership Qualities**

Ability to become efficient leaders

○ **Critical thinking:**

The ability to analyse and predict socio political phenomena based on the study of existing socio economic determinants and past experiences.

○ **Effective citizenship:**

The course curriculum inculcates among students a basic understanding of the Fundamental rights and Fundamental duties of citizens and thereby to act as responsible citizens.

○ **Career Options**

- **Academician:-**Students will get a wide scope for pursuing an academic career in India by becoming lectures and professors.
- **Public Administrator:--**→ political science post graduate with his knowledge can be a Public Administrator and play an important role in decision – making and implementation of policies.
- **Political Consultant:--**→ they can work as Political Consultants in election campaigns for political candidates.
- **Political Content Writer:--**→ Political Science post gradates can also become political content writer
- **Other Important Carrier Options:--**→ Political Correspondent• Subject Matter Expert• Manager• Competitive• Examinations(Net/Set, MPPSC/UPSC)

### SEMESTER I

Course Code	Course Type	Course Title
MAP 101	CCC	Debates in Political Theory

#### Core Paper : Debates in Political Theory

Learning Outcomes: After completion of the course .-

- a. The students would be able to define various political theories, different approaches to politics and build their own understanding of politics.
- b. They will be able to describe the interplay between ideology and political powers, in relation to the State and Nation.
- c. They will be able to analyse the power structure operational between nation and state.
- d. They will be able to explain the concept of liberty/freedom with regard to the development of a nation/state.

- e. Students would be able to define the principles of Rights, Peace, Justice and Equality corresponding to the political theory discussions.
- f. The students will be able to define the meaning and characteristics of revolution and social change in the background of Nationalism, Imperialism and Neo-Imperialism.

<b>Course Code</b>	<b>Course Type</b>	<b>Course Title</b>
<b>MAP 102</b>	<b>CCC</b>	<b>Comparative Political Analysis</b>

### **Core Paper :Comparative Political Analysis**

Learning Outcomes:

Having completed the course, the learners would be able to -

- a. Familiarize themselves with the debates on key concepts and theoretical perspectives in comparative politics and comprehend the meaning and evolution of Comparative Politics along with various traditional approaches to study the same.
- b. Develop an understanding of the concept of constitutionalism along with various forms of government and use modern approaches to compare various political systems.
- c. Compare and assess different organs of the government and types of political systems operative across various countries.
- d. Compare and critically analyse the role of political elites, political parties and pressure groups in different political systems.
- e. Develop a thorough understanding of the electoral systems and processes prevalent in different countries across the world.
- f. Learn to use the comparative method to analyse why and how political institutions, processes, regimes, and ideologies change over time and across regions
- g. Develop a thorough understanding on how to study politics comparatively, that is, understand similarities and differences in political experiences.

<b>Course Code</b>	<b>Course Type</b>	<b>Course Title</b>
<b>MAP 103</b>	<b>CCC</b>	<b>Indian Government and politics</b>

### **Core Paper : Indian Government and politics**

Learning Outcomes:

After the completion of this course, the students will be able to:

- a. Comprehend and recall the historical dimensions of Indian Political culture, the values and legacies and social dimensions of Indian Political System.

- b. Have an in-depth knowledge of State politics of Chhattisgarh; appointments, powers and constitutional positions of the heads of State.
- c. Describe the changing nature of class dominance in political representation in relation to language, region, religion, caste, tribe and gender.
- d. Critically analyse the impact of racial, linguistic and regional factors on Indian Political System.
- e. Evaluate the development process and the role of political parties in India as well as in Chhattisgarh.
- f. Analytically describe the structure, roles and powers of the Election Commission and the electoral process in India ,
- g. Develop a tendency of research study in the fields of electoral reforms, factors influencing the electoral behaviour and emerging trends in Centre-State Relations.

Course Code	Course Type	Course Title
MAP S01	OSC	<b>Research Methodology and Computer Application. Basics</b>

### **Optional Paper : Research Methodology and Computer Application Basics**

#### Learning Outcomes:

After the completion of this course, the students will be able to:

- a. Understand and explain the meaning, concept, nature, types and steps of social research along with various approaches.
- b. Enumerate and explain the types of data and methods of data collection, concept of model, paradigm and theory
- c. Grasp and describe various methods used in carrying out research.
- d. Examine and assess the building blocks of research viz. hypothesis, concepts and variables.
- e. Identify the research problem and formulation of various types of research designs.
- f. Analyse the secondary data and the use of statistics in research work.
- g. Develop the basic computing skills to present data and write a research report, paper and thesis.

Course Code	Course Type	Course Title
MAP A03	ECC/CB	Contemporary Debates in Political Theory

**Elective Paper : Contemporary Debates in Political Theory.**

Course Outcomes:

After the completion of this course, the learners will be able to:

- a. Develop a clear-cut understanding on various concepts, Ideologies and debates in Political Theory.
- b. Comprehend the relevance of contemporary theories like — Liberalism, Socialism, Marxism, and Neo-Marxism.
- c. Understand the theories of Liberty, Equality, Justice and Democracy.
- d. Understand the meaning and significance of Political Theory and interpretations of the classical tradition of Environmentalism, Multiculturalism and Fascism.
- e. Acquire a deeper understanding on the theories of Social Change expounded by Lenin, Mao Zedong and Gandhi.
- f. Develop a profound understanding on concepts of Modernism and Post-Modernism movements and comprehend the various perspectives of Ideologies in Political theory.

## SEMESTER II

Course Code	Course Type	Course Title
MAP 201	CCC	Administrative Theory

Core Paper : Administrative Theory.

Course Outcomes:

After the completion of this course , the students will be able to:

- a. Understand the basics and the evolution of Public Administration.
- b. Comprehend various approaches to the study of Public Administration and theories, types and of Organization.
- c. Comprehend the role of Executive, Judiciary and Legislature in Public Administration vis-à-vis Good Governance.
- d. Comprehend the basic theories, issues of Bureaucracy and the importance of Personnel Administration.
- e. Understand the core elements of Financial Administration, like Budgeting and Finance Allocation.
- f. Analyse the concept of good governance, e-governance and reforms in administration.

- g. Understand the role of Ombudsman, like -Lokpal, Lokaukta, and pressure groups in curbing Corruption in Public Administration.

Course Code	Course Type	Course Title
MAP 202	CCC	Themes in Indian Political Thought

Core Paper : Themes in Indian Political Thought.

Course Outcomes:

After the completion of this course, the students will be able to:

- a. Articulate the ideas of various Indian political thinkers whose works form the core of Indian Political Philosophy.
- b. Have an in-depth knowledge and understanding of Indian Political thinkers like Manu and Gandhi.
- c. Develop a comparative understanding of various social forms of Community, like — Janapada, Sangha, Jati, Qaum, Samaj.
- d. Identify and describe the key ideas of Shramanic, Syncretist, Reformist, and Socialist.
- e. Develop an understanding of the ideas of Modern Indian Political thinkers.
- f. Critically analyse the rise and development of Cultural and Religious Nationalism in India.

Course Code	Course Type	Course Title
MAP 203	CCC	Western Political Thought

Core Paper : Western Political Thought

Course Outcomes:

After the completion of this course, the students will be able to:

- a. Comprehend and recall the key ideas of all the political philosophers given in the course
- b. Explain the political thoughts according to Plato and Aristotle and how their thoughts were linked to the political development
- c. How Aristotle differed from his master Plato on the conception of Justice
- d. Make a distinction among Hobbes Locke's and Rousseau on their nature of State the Law of Nature in form of contract and the emergence of state from the contract
- e. How and why Machiavelli gave an overriding priority to Pragmatism above ethics and value in Operation of statecraft

- f. Analytically describe the ideas of idealism, individualism, Liberalism, and socialism, and Facism

Course Code	Course Type	Course Title
MAP 221	PRJ OSC	Social Outreach

Skill Enhancement Paper: Social Outreach and Skill Development

Course Outcomes:

After the completion of this course, the students will be able to:

- a. Apply and use functional and purpose oriented Hindi in their day-to-day life and activities.
- b. Get acquainted to the existing socio-cultural environment, in which they are living and working.
- c. Scientifically prepare project papers and reports on social outreach programmes on the relevant subjects.
- d. Develop essential skills in computer work, research work and project writing.
- e. Critically analyse their own socio-political and economic situations and propose alternatives for improvement.
- f. Demonstrate a proficient skill in speaking, reading and writing purposeful and practical Hindi.

Course Code	Course Type	Course Title
MAP B02	CCC	Social Movements and Revolutions.

**Elective Paper : Social Movements and Revolutions.**

Learning Outcomes:

After completion of the course the students will be able to —

- a. Elucidate the definition, features, and ideologies of Social Movements.
- b. Explain various socio-political contexts as well as ideological bases of Social Movements.
- c. Describe the types and phases of Social Movements.
- d. Interpret various factors influencing some major Revolutions and Liberation Struggles in Asia, Africa and Latin America.

- e. Identify various movements initiated by Peasants, Women, Environmentalists and Ethnic groups.
- f. Explain how the Social Movements operated and influenced the society and politics at large.
- g. Analyse the changing nature of Social Movements in India.

### **SEMESTER III**

<b>Course Code</b>	<b>Course Type</b>	<b>Course Title</b>
<b>MAP 301</b>	<b>CCC</b>	<b>Democracy and Political Institutions in India</b>

#### **Core Paper : Democracy and Political Institutions in India.**

Course Outcomes:

After the completion of this course, the students will be able to:

- CO1.** Understand the structures of Indian Democracy with the help of different democratic theories and democratic thinking in India before and after independence.
- CO2.** Comprehend the functioning of the governmental institutions in India, with their legislative, executive and judicial roles and the underlying interrelationship between them.
- CO3.** Critically evaluate the Federal structure, namely — the State — Union relationship.
- CO4.** Highlight the challenges arising in Indian democracy due to caste, class, language, religious and regional diversities.
- CO5.** Develop an understanding of grassroots politics and the role of social movements in Indian democracy.
- CO6.** Demonstrate a clear and critical understanding of the Decentralization approach through Local Self-Governance.
- CO7.** Manifest a political sense of responsibility to uphold the Human Rights and Dignity of the citizens by orientating them to the various
  - a. Constitutional Commissions.

<b>Course Code</b>	<b>Course Type</b>	<b>Course Title</b>
<b>MAP 302</b>	<b>CCC</b>	<b>Parties, Elections and Political Process in India</b>

#### **Core Paper :Parties, Elections and Political Process in India.**

Course Outcomes:

After the completion of this course, the students will be able to demonstrate:-

- CO1.** A comprehensive understanding of the historical, socio-political and economic background of the political parties in India.
- CO2.** An ability to critically analyse the social framework in relation to political system in India.
- CO3.** A deeper understanding of social asymmetries and their impact on politics in India.
- CO4.** An in-depth knowledge of the concepts of Regional Political Culture and Political Socialization in Indian Context.
- CO5.** A clear understanding on the social and regional differentiation and their linkage with democratic elections in India.
- CO6.** A research tendency to assess the role of Non-Party movements, such as NGOs, Pressure Groups and Common Interest Groups in
  - a. Society and Politics of India.

<b>Course Code</b>	<b>Course Type</b>	<b>Course Title</b>
<b>MAP 303</b>	<b>CCC</b>	<b>INDIAN POLITICAL THOUGHT</b>

Course Outcome

After completion of the course students will :

- CO1.** understand the rise of various ideas in the Mahabharat Period
- CO2.** be exposed to understand Renaissance and new thoughts in ideology in India
- CO3.** Be familiarized with the rise of Political Socio-religious reforms in India
- CO4.** Learn about the thoughts of Lohia, Jaiprakash, Nehru in the context of Freedom Movement
- CO5.** Understand Political-socio thoughts of Ambedkar Jyotiba Phule and sawarkar
- CO6.** Be able to analyse the thoughts of Mahatma Gandhi and Deendayal Upadhyay

<b>Course Code</b>	<b>Course Type</b>	<b>Course Title</b>
<b>MAP S02</b>	<b>CCC</b>	<b>Intellectual Property Rights, Human Rights and Environment : Basics</b>

**Intellectual Property Rights, Human Rights and Environment Basics.**

Course Outcomes:

After the completion of this course, the students will be able to demonstrate:-

- CO1.** A thorough understanding on the topics of Intellectual Property Rights (IPR),
- CO2.** Patent Laws and Rights, offence and penalties related to IPR.
- CO3.** A comprehensive knowledge on the Copyright Acts and Rules, registration and subject matters under copyrights rules and the area of jurisdiction to deal with the violating acts.
- CO4.** An in-depth knowledge on the Rights of individuals and groups related to Life, Liberty, Equality and Justice.
- CO5.** A clear understanding on the functioning of various National and International Agencies / Commissions operating to uphold Rights of people.
- CO6.** A tendency to carry out further study and research on the emerging environmental issues at the local, regional or national level.
- CO7.** An interest for promoting sustainable development in conformity with environmental safety and humanitarian approach.

Course Code	Course Type	Course Title
MAP C02	ECC/CB	Democracy and Human Rights in India

**Elective Paper : Democracy and Human Rights in India.**

Course Outcomes:

After completion of this course, the student would be able to :-

- CO1.** Have a complete concept clarification on the Human Rights issues corresponding to the western as well as third world countries.
- CO2.** Sketch out the Constitutional, legal and policy Framework in India to address the Human Rights Issues after the independence.
- CO3.** Categorize and describe various issues and challenges affecting the lives of various sections of the society.
- CO4.** Critically examine violations of human rights taking place around the globe, and particularly in India.
- CO5.** Get involved with the media, civil societies, human rights groups

#### SEMESTER IV

Course Code	Course Type	Course Title
MAP 401	CCC	PRINCIPAL OF INTERNATIONAL POLITICS

#### Core paper PRINCIPAL OF INTERNATIONAL POLITICS

Course Outcomes:

After the completion of this course, the students will be able to:

- a. Comprehend the historical and traditional background. behind the emergence and evolution of the theories of International Relations.
- b. Understand the changing nature of global order, the emergence of contemporary world order and have an in-depth knowledge of the discipline.
- c. Equip themselves to generate their own ideas and ability to critically examine the important, issues shaping and posing challenges to the international relations today.
- d. Develop the skill to analyse the political debates related to global environment like — structural realism, modernism, nationalism, ethnicity and neo-imperialism.
- e. Have a well-grounded understanding of the problems of international relations.
- f. Critically evaluate various approaches to build up international relations in the face of neo-liberalism, feminism and a comparative analysis of different international organizations.

Course Code	Course Type	Course Title
MAP 402	CCC	India and the World.

Elective Paper : India and the World.

Learning outcomes:

After completion of this course, the student would demonstrate:-

- a. A clarity of concept on historical development, principles and objectives of India's foreign policy and how it is shaped by domestic and external determinants.

- b. An awareness and knowledge about institutions involved in the making of foreign policy of India and also an understanding of the intricacies of making of India's foreign policy.
- c. A critical analysis on the changes and continuities in relation of India with major powers of the world.
- d. A deeper understanding on the economic dimension of foreign policy of India and critically analyse the monetary sources of economic growth from other countries.
- e. A deeper understanding on India's engagement with its neighbours of Asian Region.
- f. Awareness on the implications of relations of India with different regions and global and regional organizations such as UN, EU, SAARC, ASEAN, OPEC, NAM etc.

Course Code	Course Type	Course Title
MAP 403	CCC	POLITICAL HISTORY OF CHHATTISGARH

### **POLITICAL HISTORY OF CHHATTISGARH**

Course outcome

After completion of this course, the student will be able to understand:-

1. the political history and role in freedom struggle of chhattisgarh
2. Historical geographical and cultural background of chhattisgarh
3. Role of Chhattisgarh in India's freedom struggle
4. Thinkers in Chhattisgarh Pandit Ravishanker Shukla, Pt.Sunderlal Sharma, Swami Atmanand
5. Tribal and monarchy Culture in Chhattisgarh with special reference to Ancient Political Institution

Course Code	Course Type	Course Title
MAP 421	SSC	DISSERTATION

Skill Enhancement / Project Paper : Dissertation on a relevant topic

Learning Outcomes:

In the dissertation, the student will be able to present:-

- a. A curiosity and keen interest for seeking necessary advice and guidance from the Dissertation Guide/Supervisor.
- b. A logical thinking and writing skills based on the scientific research method.
- c. A systematic approach and practical application of the Research Methodology studied in the first semester.
- d. A critical analytical skill on any relevant topic.

- e. An application of data analysis skill along with basic computer application skill.

A neat and clear dissertation with 80-100 pages, hardbound or spiral bound in three copies

<b>Course Code</b>	<b>Course Type</b>	<b>Course Title</b>
<b>MAP D03</b>	<b>ECC/ CB</b>	<b>INTERNATIONAL SECURITY</b>

Core Paper : International Security.

Learning Outcomes:

After completion of the course, the student will be able to:-

- b. Demonstrate a comprehensive understanding and knowledge of International Security.
- c. Understand the theoretical approaches to International Security and critically evaluate the changing nature and the emergence of contemporary world order while having an in-depth knowledge of the security problems of the third world countries.
- d. Equip themselves to generate their own ideas and ability to critically examine the crucial security issues and challenges posing threats to the world.
- e. Demonstrate research tendency to go for innovative study in the field of international Security.
- f. Have well-grounded understanding on the concepts of Regionalism and Integration and to comparatively analyse different regional and trans regional security issues.
- g. Develop a political sense of responsibility to stand against unjust human tendencies posing security threats either locally or globally

## **B.A Part one (Psychology) Paper 1**

### **Basic psychological process**

After completing the course the students will able to demonstrate

CO1- a comprehensive understand of goals perspective and methods of psychology.

CO2- developing familiarity with the basic concept of foundational study of process like, learning, sensation, perception, attention, thinking, and memory.

CO3- It will help the student understand and explore the biological basis of experience and it will help in developing an understanding of the influence of behaviour, cognition and environment on the bodily system.

CO4- to develop an understand of the concept of individual differences To acquaint the learner with the complexities of personality

Understand the various approaches to intelligence and appreciation of the diverse framework

To know the process and principles of motivation and emotion and appreciating the framework

## **Paper 2**

### **Psychopathology**

After completing the course the students will able to demonstrate

CO1- a comprehensive knowledge of understanding the concept of normality and abnormality. Make students understand the nature and course of various abnormal conditions.

CO2- developing familiarity to understand the assessment of psychopathology with the help of diagnostic tests, rating scales, clinical interview, projective tests.

CO3- To understand various psychological disorders through latest editions of DSM-IV and ICD-10.

CO4 a research tendency to go for innovation studies for the treatment of mental disorders.

**BA part two**  
**Paper one**  
**Social Psychology**

After completing the course the students will be able to demonstrate

CO1-Develop insight and analyze the contribution of social psychologists to the understanding of human society.

CO2- familiarizing with the concept of social perception including impression formation, pro-social behaviour, cooperation and helping behaviour

CO3- Develop a research tendency to go for innovative studies for stereotype and prejudice attitudes and interpersonal attraction affects society.

CO4- Developing understanding of group structure and function, group norms, leadership.

CO5-understanding the application of social Psychology. To social issues like aggression, mob behaviour, gender discrimination, child labour and population explosion.

**Paper-2 (Psychological assessment)**

After completing the course the students will be able to demonstrate

CO1-a comprehensive knowledge of understanding basic principles of psychological assessment and its various dimensions.

CO2-analyze and apply the understanding of psychological testing. Recognize the various the various types of psychological tests.

CO3-Develop knowledge about the steps in test construction and test standardization. Developing knowledge of ethical and legal issues involve in test construction related to reliability and validity of test.

CO4-Ability to develop. cognitive and non cognitive tests Acquiring knowledge to effectively evaluate the appropriate and quality of Psychological test and their Psychometric strength and weakness

CO5-Developing knowledge about the application of tests in various applied aspects of life like education, occupation, organization social and health.

### **B.A.Part-3 Paper-1 (Psychological statistics)**

After completing the course the students will able to demonstrate

CO1- a comprehensive knowledge of understanding the nature of measurement of variables.

CO2- developing skills to use quantitative techniques such as measured of central tendency.

CO3- knowing how to use normal probability curve as model in scientific use. CO4- grasping concepts relate to hypothesis testing

CO5- knowing basic techniques of descriptive and inferential statics. Developing ability to understand. The use of statistics in research purposes.

### **Paper-02 Human development (A)**

After completing the course the students will able to demonstrate

CO1- a comprehensive knowledge of understanding and distinguish major theoretical perspective and methodological approach in human development.

CO2-A critical understanding of the ecological and cognitive factors in human development

CO3-Developing an ability to understand the emergence of self and identity and morality

CO4-understanding the contributions of socio cultural context towards shaping human development, like role of family, peers, school, marriage and occupation.

CO5-Acauring an ability to describe key development challenges and issues face in aging.

## **Paper2 Environmental Psychology (B)**

After completing the course the students will able to demonstrate

CO1-a comprehensive knowledge of understanding the human nature and environment. Valuing environmental ethics from values about nature in ancient Indian systems.

CO2-a critical understanding of effect of environment on human behaviour

CO3-a critical inclination for pro social and pro environmental behaviour, ecosystems and acculturation and psychological adaption.

CO4-Developing ability to understand environmental assessment trough naturalistic observation and field surveys. Ability to creating environmental awareness like social movements,Chipko,narmdabachao, aandolan.

CO5-a sense of developing application of psychology in man environment fit. In education, industry, health, and in social fields. Develop an ability to understand environment effects in behaviour and it's awareness in physical, mental, spiritual development of human existence

### **After proper Completion of B.Sc.I ( Physics)**

1. Student are able to differential different types of motion eglinear, circular/ rotational, simple harmonic motion etc& know their usefulnessindifferent cases.
2. Students are able to differential the physical quantities of the physical entities.
3. Students are able to differentials D C and A C and know how to apply specially A.C. it different necessities
4. Students know different electrical and magnetic behavior of matter.
5. Students know cause and nature of magnetic field and their usefulness in differentmachine etc.

### **After proper completion of B.Sc.II( Physics)**

1. Students are in a position how heat energy is converted into mechanical work.
2. Students understand heat engine and its different types.
3. Students are well knowe abut block body radiation, which in basic for Quantum physics to be studied in higher classes .
4. Students are well knowabout the transport of matter and energy through waves.
5. Students are familiar will different opticalinstruments generally used in space physics.
6. Students know LASER, its constructions and uses.

### **After proper Completion of B.Sc.III ( Physics)**

1. Students are well known about fundamentals of quantummechanics which gives specific toots to understand physics in higher education.
2. Students came across variousspectra e.g. vibrational and rotational.
3. Students know fundamentals of nuclear physics which is essential few higher educations.
4. Students have understood various electrical devices semi-conductordevices useful is daily life.
5. Students also camel through different digital circuits useful in different Electrical and semi- conductor devices.
6. Students get motivated for higher education in physics.

## **B.A. Sociology Programme Outcome**

Upon successful completion of the program the graduate students would be able to :-

1. Understand basic concepts and theoretical perspectives in Sociology and how they are used in sociological explanation of social behavior.
2. Understand to collect, analyze and interpret empirical evidence in sociological research.
3. Gain Familiarity with and develop an understanding of core substantive areas of sociological inquiry.
4. Express sociological ideas clearly and coherently both in writing and in oral presentations.

### **BA, Part one, Sociology**

#### **Paper – 1st Course Outcomes – Introduction to sociology**

By studying this paper, student will be able to gain knowledge and perform best :-

1. Understanding about meaning, nature, scope, society, community, matter and significance.
2. knowledge about marriage, family and kinship, culture and Socialization.
3. Understanding about Social stratification, social mobility – meaning, forms and theories.
4. knowledge about meaning and pattern, types factors evolution and progress.
5. Understanding about social system - meaning characteristics and elements.

#### **(Paper 2nd) Course outcome – contemporary Indian society**

1. Understanding about verna, ashram, karma, dharma, and Purusharth.
2. knowledge about the structure and composition of Indian society structure; village, town, cities and rural. Composition : tribes, Dalits, women and minorities.
3. Understanding about basic institution of Indian society – caste system, joint family, marriage and changing dimensions.
4. Knowledge about familial problems -dowry, domestic violence, divorce, intra-intergenerational conflict, problem of elderly.
5. Understanding about surrogate motherhood, live in relationship, regionalism, communalism, corruption, youth unrest.

### **BA, Part Two**

#### **PAPER -1st Course outcomes- sociology of tribal society**

By studying this Paper student will be able to gain knowledge and perform best :-

1. Understanding about tribes concept, characteristics, tribes and schedule, distinction between tribe and cast.
2. knowledge about classification of tribal people -food gatherers and hunter, shifting cultivate, nomads, peasant settled agriculturists and artisans.

3. Understanding about socio-cultural profile: kinship, marriage, family, religion and belief cultural tradition.
4. knowledge about tribal sensitization : tribal mobility, scheme of tribal development, various tribal movements.
5. Understanding about problem of tribal people: poverty, illiteracy, indebtedness, agrarian issue, exploitation study of tribal communication. `

### **(Paper 2nd ) Course Outcomes – crime and society**

1. Understanding about concept of crime: meaning, characteristics and type.
2. knowledge about structure of crime: anomic, criminality and suicide, organized crime, white collar crime and cyber crime.
3. understanding about social evils and crime: alcoholism, drug addiction, dowry and beggary.
4. knowledge about punishment: meaning, characteristics, objective and type.
5. Understanding about correctional process; role of police and judiciary in India, development of jail reform in India and modern correctional concept probation, parole and after care Program.

### **BA, Part Third PAPER 1<sup>ST</sup>**

#### **Course outcome – foundation of sociological thought**

By studying this Paper student will be able to gain knowledge and perform best:-

1. Understanding about the law of three stage , positivism ,hierarchy, of science .
2. knowledge about karlmarx -dialectic materialism, class struggle and surplus value. max weber – bureaucracy, authority and the protestant ethic and the spirit of capitalism.
3. Understanding about circulation of Elis and logical and nonlogical action.
4. knowledge about the theory of leisure class, of social change.
5. Understanding about mahatma Gandhi – Ahisma, SatyaGraha and trusteeship. RadhaKaram Mukherjee – the concept of value. `

### **METHODS OF SOCIAL RESEARCH, Paper -2<sup>nd</sup>**

1. Understanding about meaning characteristics and significance. Scientific methods , hypothesis.
2. knowledge about ethnography observation, case study, content analysis.
3. Understanding about exploratory, descriptive, explanatory, experimental , and diagnostic.
4. knowledge about social survey , sampling ,questionnaire, interview –schedule and interview – guide.
5. Understanding about meaning importance and limitations.

**Department of Sociology**  
**Programme outcomes**  
**Name of Program: - M.A. in Sociology**

After completion of MA in Sociology a student will develop:

1. Understand the structure of society, social institutions, marriage system, family and religion.
2. Learn about research methodology.
3. Knowledge about Western and Indian social thinkers.
4. Acquire deeper insight into social demography, social health and social problems in Indian society.
5. Study of social pathology and problems.
6. Career options in non govt.- organization Women and Social welfare, Health dept.
7. Outcomes of research work conveyed to the state government as development policies.

**M.A. (Sociology) Semester-I**  
**Course Outcome**

**Paper-1 Classical Sociological Tradition (Compulsory)**

1. Students will aware with foundational process for emergence of Sociology.
2. They will equip with critical, logical and analytical thinking to understand complex social phenomenon.i.e. karlmarx, Emile Durkheim , Max Weber, Vilfredo Pareto.
3. Enabling students to link theories and cross cutting issues.

**Paper-2 Social Anthropology**

1. After completion of this paper student have knowledge of basic Anthropology.
2. After completion of this paper student have knowledge of problem and issues arising out of the impact of modernization, industrialization, anizationApplication of anthropological knowledge.
3. Knowledge of planning and development programmers.

**Paper -3 Social Change in India.**

1. To give a basic understanding of conceptual and theoretical frame work of social change.
2. To give a basic understanding factors of social change
3. To give a basic understanding of trends and processes of change in modern India
4. To give a basic understanding change in urban and industrial India

**Paper -4 Research Methodology and basic computer application**

1. Understand and Explain The meaning, Concept, nature Types and steps of social research along with various approaches.
2. Enumerate and Explain the types of data and methods of data collection, concept of model paradigm and theory.
3. A Research tendency to go for innovative studies for students how to work data entry, Data Analysis Tabulation and graphics and Presentation also.
4. A descriptive intelligence of computer system, its Feature, Basic application of computer and Generation of computer.
5. A critical Understanding of the key concepts of CPU, Hardware, Software, muse ,key board, Scanner, Barcode, Moniter, Printer, Primary memory and secondary memory also.

### **Paper-5 Urban sociology**

1. To give a basic understanding origin and scope of urban sociology and concept of urban locality.
2. To give a basic understanding of urban ecology.
3. To give a basic understanding growth and types of cities.
4. To give a basic understanding of urban problems and crimes.
5. To give a basic understanding of town planning and forms of town planning

### **M.A. (Sociology) Semester-II**

#### **Course Outcome**

#### **Paper 1 Classical Sociological Thinkers**

1. Students will aware with Sociological Thinkers i.e. Auguste Comte's contribution to the subject matter of sociology.
2. Students will aware with Emile Durkheim's sociological theory.
3. Students will aware with Marxism.
4. Students will aware with Max Weber's sociological theory.

#### **Paper 2 Quantitative Research techniques in Sociology**

1. To give a basic understanding of Research techniques i. e. sampling, Quantitative method and survey method.
2. To give a basic understanding of measurement and scaling techniques.
3. To give a basic understanding of statistics in social research

#### **Paper -3 Theoretical perspectives In sociology**

1. Students will aware with nature of sociological theory levels of theory and relationship between theory and research.
2. The idea of social structure :A R Radcliffe Brown, the problem of role analysis S F Nadle, functional dimension of social system T Parson Neofunctionalism J Alexander.
3. Knowledge of conflict theory Karl Marx, R Dahrendorf, L Coser R Collins.
4. Knowledge of structuralism Marxism ; L Althusser action theory Pareto, Max Weber and Parsons.
5. Knowledge of Interactionist Perspective i.e. symbiotic interactionism ;G H Mead ,H Blumer.

#### **Paper 4 social outreach and skill development**

1. A Comprehensive knowledge of socio- culture and economic condition of local community.
2. A critical understanding of the various Government, non -Government schemes running in the locality for their upliftment.
3. A capacity to compare and contrast the different socio economic condition of rural and urban areas and the schemes implemented there.
4. Scientifically prepare project paper and reports on social outreach programmes on the relevant subject.
5. Demonstrate a Proficient skill in speaking reading and writing purposeful and practical hindi .

#### **Paper 5 Rural society in India**

1. Students will aware with tribal society as agrarian society, tribe class changing problem of tribal land.
2. Students will aware with social issues i. e. migration , Land alienation and loss of livelihood.
3. Students will aware with contemporary issues i.e. health, education, changing status of rural women inequalities.
4. Students will aware with peasant movement causes and types.

5. Students will aware with Naxlite movement in India

**M.A. (Sociology) Semester-III**  
**Course Outcome**

**Paper 1 classical sociological theories**

1. After completion of this paper student have knowledge of positivism it's origin and basic postulates contribution of comte and Durkheim.
2. Students will aware with functionalism it's origin and basic postulates contribution of parsons and merton.
3. Students will aware with conflict theory contribution of L A coser , karl Marx and dahrendorf.
4. Students will aware with structuralism it's origin and basic postulates contribution of Red cliff Brown,Levistrauss.
5. Students will aware with exchange theory it's origin and basic postulates contribution of Peter Balu and George Homans

**Paper 2 perspectives on Indian society**

1. After completion of this paper student have knowledge conceptualizing Indian society in terms of certain distinguishtivecharecteristics and configuration i.e.dharma ,varna , ashrama, karma rhen and purusarth.
2. Students will aware with synthesis of textual and field views of IrawatiKarve and K.M. Kapadia ,linkage and network building reasons group and community family marriage,kinship system Indian social organization.
3. Students will aware with structural functionalism MN Srinivas, SC Dube and give knowledge about village social hierarchy ,caste system,caste and class in contemporary India.
4. Students will aware with scale of magnitude of culture ,religions and linguistic diversity in India.
5. Students will aware with subaltern perspectives of B R Ambedkar ,problems of scheduled caste and scheduled tribes Indian society and legislation ,casteism , untouchability ,communalism ,regionalism and national integration

**Paper 3 criminology – I**

1. After completion of this paper student have knowledge of conceptual and theoretical approaches of crime.
2. After completion of this paper student have knowledge of Type of criminals and crimes.
3. After completion of this paper student have knowledge of changing profile of crime and criminals I.e. corruption cyber crime and crime against women.
4. Student have knowledge about theory of punishment and reformative theory.
5. Student have knowledge about concept of terrorism and it's characteristics and terrorism in India

**Paper 4Intellectual property rights, Human rights and Environment**

1. A Comprehensive knowledge of intellectual property rights like patent and copyright.

2. A critical understanding about human right like related to life liberty equality and disable etc.
3. A critical understanding to interrelationship between human right and environments.
4. TO Develop a sense of how to protect invironment.

### **Paper 5 Social Demography**

1. After completion of this paper student have knowledge of importance of population studies and census and NFHS (national family and health surveys).
2. Student have knowledge about population theories.
3. Student have knowledge about population size distribution and characteristics of India's.
4. Student have knowledge about population dynamics and control

## **M.A. (Sociology) Semester-III**

### **Course Outcome**

#### **Paper 1 Modern Sociological Theories**

1. After completion of this paper student have knowledge of symbolic Interectionism it's. origin and basic postulates ,contribution of schutz and berger.
2. Student have knowledge about phenomenology it's. origin and basic postulates and ,contribution of G H Mead and Berger.
3. Student have knowledge about ethnomethodology it's. origin and basic postulates and ,contribution of Garfunkel and Goffman.
4. Student have knowledge about critical theory it's. origin and basic postulates and ,contribution of Adomo and Habermas.
5. Student have knowledge about post modernism it's origin and development and contribution of Foucault and Derrida.

#### **Paper 2 Comparative sociology**

1. After completion of this paper student have knowledge of historical and social context emergence of sociology in the west.
2. Student have knowledge about central themes in comparative sociology i.e. modernity and development, diversity and multiculturalism, environment and globalization.
3. Student have knowledge about theoretical and methodological approaches in sociology.
4. Student have knowledge about current issues of societies I.e. contextualization, indianization and use of native categories.
5. Student participating in debate on — for sociology of India.

#### **Paper 3 Criminology II**

1. After completion of this paper student have knowledge of roots of correction to prevent crime, socialization , family values, role of education.
2. Student have knowledge about correction and it's kinds history of prison reforms in India.
3. Student have knowledge about problem of correctional administration and also give knowledge about police, judiciary prosecution and prisoners.

4. Students have knowledge about victimological perspectives and victim's responsibility in crime, prisoner's human right and women's right.
5. Student have knowledge about community policing

#### **Paper 4 Dissertation**

1. A Comprehensive knowledge of fieldwork methods and techniques to collect data
2. A critical understanding how to collect the data, draw table or charts interpret the data and draw appropriate generalization from the same.
3. A research tendency to go for innovative studies for students how to communicate, Where the have done the research, What are the generalizations made and What are the implications of their finding.
4. A critical inclination to read how give references that are complete correct and consistent. Finallythey will learn how to defend their findings orally.

#### **Paper 5 Urban society in India**

1. After completion of this paper student have knowledge of classical sociological traditions as urban and city dimensions of Durkahiem ,karl Marx, Max Waber and tonnies.
2. Student have knowledge about urban sociology in indiaemerging trends in urbanization.
3. Student have knowledge about classification of urban centers cities and town, citiy Industrial base it's growth and special features.
4. Student have knowledge about changing occupational structure and it's impact on social stratification and problem of housing slum development.
5. Student have knowledge about urban planning and problems of urban management of india.



## **B.Sc. 1<sup>st</sup> year Zoology**

### **Paper I cell Biology & invertebrates**

#### **Course outcome**

Co1:- understood the structure of cells and cell organelles in relation to the functional aspects,

CO2:- Understanding the mechanisms of mitosis and meiosis cell division,

Co3:- know about general character and classification of phylum protozoa, porifera and coelenterate up to order,

Co4:- Come to covering the general characters and classification of phylum Platyhelminthes, Nematelminthes, Annelida and Arthropoda up to order,

Co5:- Understanding general characters and classification of phylum Mollusca and Echinodermata up to order,

### **Paper II (Chordata & embryology)**

#### **Course outcome**

01. Students will understand the classification of hemichordate.
02. Developing the knowledge fish's skin & scales, migration in fishes, parental care in fish.
03. Understand bird's flight, adaptation, migration and perching mechanism.
04. Understand mammals –comparative account of prototheria, metatheria, Eutheria and affinities.
05. Understanding fertilization, gametogenesis structure of gamete and types of eggs cleavage.

## **B.Sc. 2nd year zoology**

### **Paper -I (Anatomy and physiology)**

#### **Course outcome**

1. Student's will gain knowledge about integumentary system and derivatives of skin, epidermis and dermis.
2. Develop the knowledge about digestive system in different type of Vertibrate.
3. Student will aware about respiratory system in all Vertebrates.
4. Develop the knowledge about the endoskeleton, limb and girdles.
5. Student will understand circulatory system and increase the knowledge of students about heart and aorta arches

### **Paper – II (Vertebrate Endocrinology, Reproductive biology, behaviour, evolution and applied Zoology)**

### Course outcome

1. Increase the knowledge about endocrine glands, hormones and classes.
2. Develop the ability to understand biosynthesis of hormones and hormone receptor.
3. Students will aware about endocrine disorders.
4. Gain the knowledge about reproductive cycle in all Vertebrates.
5. Student will know about hormonal regulation and acquire knowledge about evolution of horse.

### **B.Sc.-3rd Year Zoology**

#### **Paper I (ecology, Environmental biology, toxicology, microbiology and medical zoology)**

##### Course outcome

Co1 –Gain knowledge about Ecology and environmental , food chain and conservation of natural , resources.

Co2 –students will learn about law of limiting factor energy flow in ecosystem.

Co3 –Awareness about toxicity and their action , Animal poisons and food poison.

Co4 –Apply knowledge about applied microbiology, microbiology of milk and milk products

Co5 – Develop knowledge about Industrial microbiology. Aware students about medical microbiology.

#### **Paper –(II) Genetics, cell physiology, Biochemistry, Biotechnology and Biotechniques .**

##### Course outcome

1. Co 1. Gain knowledge about gene, gene interaction, and expression. Gain knowledge about PH meter, colorimeter, microscopy.
2. Co 2. Understand the chromosomal disorder and single gene disorder.
3. Co 3. Aware students about cell membrane and mitochondria, endoplasmic reticulum.
4. Co 4. Student will able to know about active transport and its mechanism. Develop knowledge about desorption method of biomolecules.
5. Co 5. Gain knowledge about basic structure and biological function and amino acids and peptides.

## M.sc.Zoology 1<sup>st</sup> sem.

### Systematics, Biodiversity and Evolution.

#### Course outcome

**Co1 :-** student will understand –an overview of evolutionary Biology .

**CO2 :-** understanding of the universal common ancestor and tree of life three domain concept of living kingdom .

**Co3 :-** understanding of molecular divergence and molecular clock and molecular drive .

**Co4 :-** student will gain origin and diversification of eukaryotes – origin of cells and first organism .

**Co5 :-** understanding genomics and humanness current issues in human evolution .

### Zo1 Principles of Ecology

#### Course outcome

- Student will be understanding the various features and aspect of population ecology and intra and inter specific interaction.
- Understanding the ecosystem and biomes.
- Awareness about environment and its conservation processes .
- Students will be understanding few basics of Biotransformation Biodegradation and bioremediation of chemicals .
- Students will be understanding the various issues related to biodiversity loss and conservation of forest and wild life.

### Computational biology, Biostatistics and Bioinformatics

#### Course outcome

**CO1:-** understanding the various knowledge about basic components of computers.

**CO2:-** Aware students for the knowledge of MS excel and MS word.

**CO3:-** Gain the knowledge about Biostatistics, population, sample. . student will know about data collection and presentation of data.

**CO4:-** Gain the knowledge about computerized biology. Student will able to know nucleic acid database.

**CO5:-** Aware students. For the knowledge about genomics and proteomics.

## **Entomology insect physiology 1<sup>st</sup> semester Toxicology and victor biology:-**

### **Course outcomes**

- : -student will learn details about taxonomy and biology insect pests.
- : -student will be understanding pesticides impact and pesticides industry.
- : -student Gain knowledge of pesticide and its harmful effects.
- : -Understand about various insects and its importance in human health.
- : -Students will be understand major insect pests and vector responsible for disease transmission.

## **MSc Zoology second sem**

### **Genetics and cytogenetics**

#### **Course outcome**

- Co1**–understanding of mendels principle , its extension and chromosomal basis.
- Co2**-students will gain nature of the gene and its functions, evolution and the concept of the gene.
- Co3**-develop the knowledge regarding gene mutation types of gene mutations.
- Co4**- developing skills in human genetics will capability for karyotyping and nomenclature of metaphase chromosome bands.
- Co5**- understanding the chromosome anomalies and associated diseases.
- Co6**-identify link between genetics and cancer with emphasis on oncogene.

### **Principles of manipulation gene manipulation**

#### **Course outcome**

- Understanding Basic rDNA techniques and DNA finger Print.
- Understanding the concept of cloning vectors.
- Knowledge gained DNA sequencing.
- Students will understand gene manipulation.

### **Structure and function of gene**

### Course outcome

- Co 1-** Understand various knowledge about structure and Function of nucleic acid.
- Co 2 –** Aware students for the knowledge about super –Coiling and packaging of DNA in the nucleus.
- Co 3 –** Gain the knowledge about DNA replication, Recombination and repair.
- Co4-** students will understand about transcriptions I control Of gene expression.
- Co5-** gain the knowledge about post-transcriptional gene Control
- Co6-** Understand various knowledge about nuclear Transport system.
- Co7-** Aware students for the knowledge of translation, Elongation, termination.

### **Aquatic resources and their conservation**

#### Course outcome

- Co 1.** In depth knowledge of aquaculture and Fisheries.
- CO 2.** In depth knowledge of Israel and Marine fisheries.
- Co 3.** Detailed understanding of integrated resources and Fishing technique.
- Co 4.** Detailed knowledge of fish conservation and Harvesting methods.
- Co 5.** Knowledge of advanced technique used in Aquaculture and fisheries.

## **M.Sc. Zoology Fourth Semester**

### **Animal Behaviour**

#### Course outcome

1. Understand the pattern and objective of Animal Behaviour
2. To study the social behaviour and communication in honey bee
3. Understand in detail fixed action pattern
4. Have a complete understanding innate releasing mechanism, motivational system, rate of Hormones and pheromones
5. Study the altruism, parental care and mate selection.

### **Biology of parasitism**

#### Course outcomes

1. Understand different parasitic protozoa animals
2. They will gain knowledge about gastro intestinal Nematodes
3. They will be able to understand parasitic cestoda

4. They will be able to understand and analysis bacterial disease
5. Understand different disease transmitted insect and Ticks.

### **Comparative Endocrine physiology**

#### Course outcomes

1. Gain the knowledge about endocrine system and different type of hormone.
2. student will understand about endocrine control in nemertean , annelids, mollusks, arthropods.
3. student will learn about different types of gland and their evolution.
4. Aware students about raining –angiotensin system, water and electrolylebalance.
5. apply the knowledge of thyroid gland and thyroid hormone synthesis.
6. Gain the knowledge about hormonal control of feeding behaviour and gastro intestinal tract.
7. Information about glucose homeostasis and pancreatic hormones.

### **(Genomics, Metagenomics and Epigenetic- Genomics )**

#### Course outcomes

1. Detailed understanding of structure and organization of genomes along complexity
2. knowledge of transposableelements,retro- transposon, SUNE, LINE, ALU and other repeat elements.
3. Developing skills in how to map genomes and to integrate physical and genetic maps.
4. understanding bioinformatics –datasets, sequence analysis based on alignment.
5. Develop the knowledge of comparative genomics methods.
6. Development of skill to perform large scale mutagenesis and interference for genome guide gene targeting.

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B.A. S>mskrit

**Impact of the Course:**

The Syllabi designed for B.A. Program is intended to trains the imagination and capacity to think critically and creatively about the world and their own country through the study of poetry, prose, dramatic, linguistics, narratology, and aesthetics in Malayalam Language and Literature.

B.A. Sanskrit program tries to make the student community to study Post Colonial Theories of Literature as well as Cultural Studies, World Poetry, Epistemology, Sanskrit Language and Literature, and Eco-Criticism. In the First Year student sample a wide variety of literature and cultural theory and develop a solid basis of knowledge and skill which they then build on in years of two and three.

The varied fact in curriculum encourage engagement with significant range of literaey non-literaey genres, including firm, theatre and popular art form which may lead our students towards universal concept. The character making and responsibility making syllabi develops student power of critically or analytical thinking alongside and appreciation of crafting of written utterances and enabling them to carry the quality of response into future reading.

The program employs a variety of forms of assessment and includes unseen and revealed written course work essay, seminars, workshops, research reports, oral presentations. So the program can develop skill for employment future study both discipline related and transformable.

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**Unit - I**

**Swapnavasvadatam is the famous work of Sanskrit literature**

Through this, students will be able to understand the ancient theatrical tradition of India. The play is written in simple Sahaj Pranjal language which will make students successful in understanding Sanskrit.

The interpretation of swapnavasvadtam will help students to understand and learn Sanskrit language. In the pupils Knowledge of Indian moral values and building sublime character

**Unit-II**

w Quatiu\*

In the critical questions the students have knowledge of the divvr«•sldcsufHir'•gil ill which they acquire knowledge of the different dimensions of the play in which poetic

introduction poet introduction characterization nature illustration adornments get knowledge of Bodhan power is developed

### Unit-III

The knowledge of the word form develops the ability of Hindi sentence building in students so that students can make sentence building language can understand literature easily

B.

The knowledge of metal diseases gives knowledge of the actions of Sanskrit so that students build sentences, understand the texts of Sanskrit, it is easy to read the reading of Sanskrit literature.

This makes the students answer the poem questions develops the language logic power increases the language Sanskrit gets proficiency in sentence formation unread passages it sentence formation

### Unit IV

#### Pratyahar Noun Treaty Inflection Meaning

Pratyahar grammar in Sanskrit is obtained in the initial form only through pratyahar.

In Sanskrit grammar the noun case has special significance since Sanskrit grammar can be understood only by the knowledge of the noun through the noun he will be able to understand the whole grammar called

### Unit-V

#### Hindi to Sanskrit Translation

Translation From Hindi language to Sanskrit language instills interest in Sanskrit among students. students acquire proficiency in translating from Golden Hindi translation to Sanskrit.

#### Paper-II Mattress Fiction & Literature History

##### Unit-I

#### Shuknasopadesh Interpretation

Shuknasopadesh is a very preachy aashakti mattress treatise for the pupils in which they are told about the various problems they face in life.

##### Unit-II

#### Interests Mitra Benefits

In this book, students and students learn important gnanpur in life through stories under which policy education etc. Indian ancient knowledge acquires two, it develops moral values and practical knowledge in them review questions of

##### Unit-III

Shuknasopadesh and hitopadesh review questions are asked under which students and students are able to review the treatise in which stories and sermons Kartar poets can understand topics like introduction and characterization.

##### Unit-IV

In this, students and students will be able to understand Vedic Sanskrit literature well and will be able to know mythological literature by reading it under vedangs, teachers will also

get ilit ruducliuu uhuu\ j;Ymmar free astrology. students and students will also be able to know about Aranyak and Upanishads

### **Unit-V**

#### **Poet Introduction**

In this section students and students are introduced to the famous poets of Sanskrit literature in which they read about the great poets Mahakavi Kalidas Mahakavi Bharavi Mahakavi Magh Mahakavi harsh visakhadatta and Banabhatta etc.

## B.A. Part-II

### Paper-I

#### Unit-I

#### Subject matter of Sanskrit Composition Ras Alankar

This section features the study of Sanskrit literature in which students will be able to understand the language skills.

#### Unit-II

#### Ras Alankar

In this section students will study the Ras Alankar drama under which they will imparted knowledge of the different types of sentence usage which understand the Ras Alankar kathasar characterization poet introduction of the play

#### Ka

#### Bhavavachya

In Sanskrit, an important part of the students and students are taught reading in this section under which they get knowledge of different types of sentence usage which develops their language skills and enable them to understand Sanskrit literature well.

#### Unit-IV

#### Samas Case

In Sanskrit, society is of great importance. understanding the Samas helps students and students to understand the texts of Sanskrit literature. knowledge of the society improves their language skills

#### Unit-V

#### Vakya rachna

Under this, students and students have to construct Sanskrit sentences under which students and students learn to construct sentences based on Sanskrit words, thereby developing Sanskrit sentence building skills in them.

### Paper-II

#### Subject verse and literary history

#### Unit-I

#### Raghuvansh Epic II Canto

In this section, students get acquainted with the epic Raghuvansh of Mahakavi Kalidas, which describes the 29 Kings of Raghuvansh through which students get to know the tradition of Maha poetry

#### Unit-II

#### Raghuvansh Epic

Under this, students gain knowledge of the various parts of the epic under which the characteristics of the epic Ras Alankar poetry introduction poet introduction characterization learn

### Unit-III

Ethics in this section students study the shlokas of the policy Century written by Bharatari in which they are taught the ideal and ethical terms, thereby developing moral values among the students

### Unit-IV

#### Literary History Epic & Prose Poetry

In this section students learn about the history of epic and prose poetry in which students study the various parts of the epic and get an introduction to them like Raghuvansh Kumarasambhava buddhacharita.

Under prose poetry ten Kumar Charit Kadambari know prose poetry like Shivraj Vijay

### Unit-V

#### Literature History Poetry Free And Fiction

Under this, students know about various lyricism in which they can understand the different dimensions of Sanskrit poetry world, read famous works like Bhartrihari's century, season nawawad century, geetgovind, students get knowledge of various fiction literature of Sanskrit literature.

## B.A. Part-III, Sanskrit

### Paper-I

#### Drama Verses and Grammar

### Unit-I

#### Knowledge Shakuntalam

In this, the students read the shakuntal play of Mahakavi Kalidas, which gives them knowledge of the famous creation of Indian theatrical tradition.

### Unit-II

#### Reviews

In this, shakuntal is studied critically so that the students gain good knowledge of the topics mentioned in poetry, develop logic power, understand poetry introduction and poet introduction well.

### Unit-III

The verses of the symptoms in students and students of Sanskrit in various verses of the knowledge provided is which into intra such as the verses of the reading-reading plan from them Sanskrit picturesqueness and suavity is the realization of the verses sort the GA will be able to and he's poetry is well understood back.

### Unit-IV

#### Grammar Short Theory Kaumudi

In this section, students study various suffixes such as tavyat aneer Yat students develop the ability of Sanskrit speech writing and syntax.

### Unit-V

#### Grammar Short Theory Kaumudi

Fixed Case and Female Suffix In this section, the knowledge of the mentioned words is imparted so that they understand the nature and suffixes of the Sanskrit language, get

acquainted with the nature of the words and understand the nature of Sanskrit word formation.

### First sem

In this, students know about the kiratarjuniyam epic which is said to be famous for Artha jatirnm.

They read kiratarjuniyam, a famous work for arthgambhasabh, which gives students the knowledge of the characteristic of Sanskrit meaning gandhasabh.

In this Section, /t triticxl Study of kir«txrjuniyizm is carried out. t !hich hc!ys aht: stUb«nlstn. learn the poetic characteristics of the girls and to gain knowledge of the various dimensions of the epic.

He studies the art side and sense critically .

### Unit-III

#### Original Ramayana

Adi Kriti Mool Ramayana study of Valmiki ji and cosmic Sanskrit develops the tendency of teaching Sanskrit Studies in Sanskrit students.

### Unit-IV

#### Decking

Under this, the students acquire knowledge of various Sanskrit adornments through Sanskrit texts which makes them easy to understand the literature in which they study the characteristics and examples of the adornments.

### Unit-V

#### Essay

In this, students learn the writing of Sanskrit essays, they are taught to write essays on various important topics so that they are proficient in Sanskrit reading, writing and communication.

### Specific of Programme

After studying Sanskrit, students will be able to work in different areas of the society; Sanskrit language is seen with respect in Sanatan Hinduism; after studying Sanskrit, students will be able to compete in various state competitions. You will be able to become a high officer by participating in it. You will be able to do the work of translator in newspapers in All India Radio. Professors in schools and colleges can work as teachers, religious leaders and priests in the army. Being a student of literature, one will also be able to succeed in areas like art and music writing.