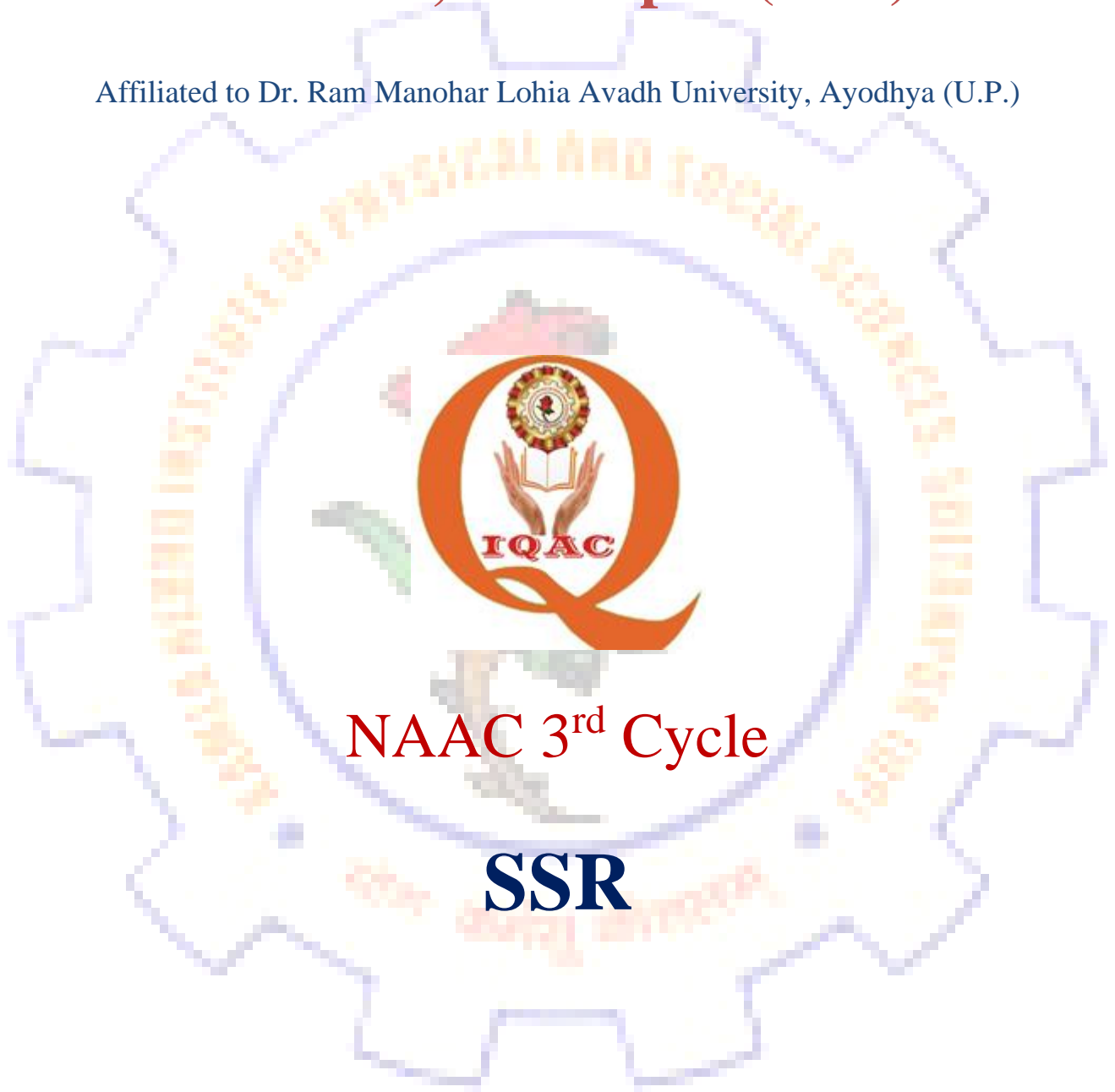
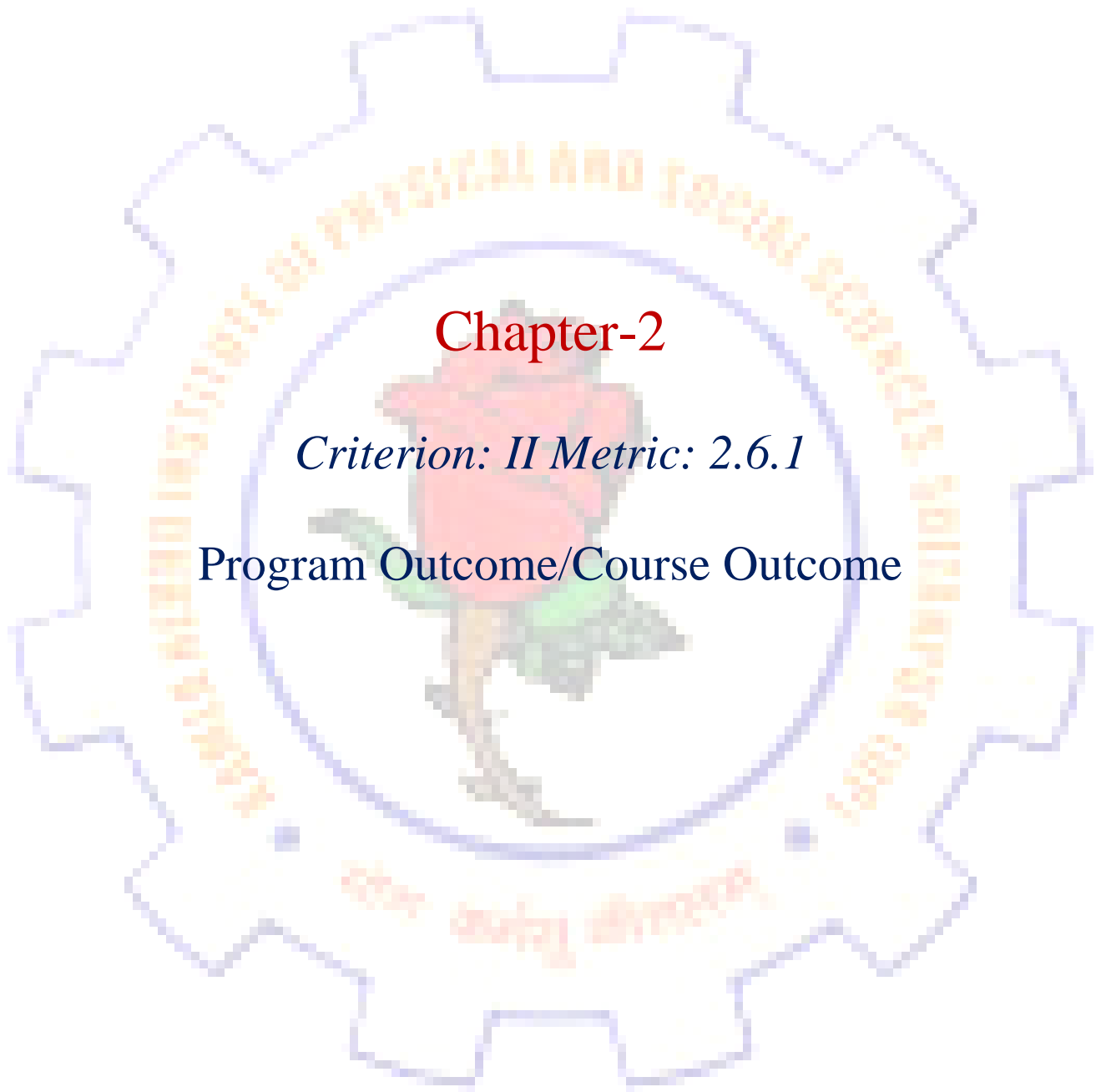


# KNIPSS, Sultanpur (U.P.)

Affiliated to Dr. Ram Manohar Lohia Avadh University, Ayodhya (U.P.)





## Chapter-2

*Criterion: II Metric: 2.6.1*

Program Outcome/Course Outcome

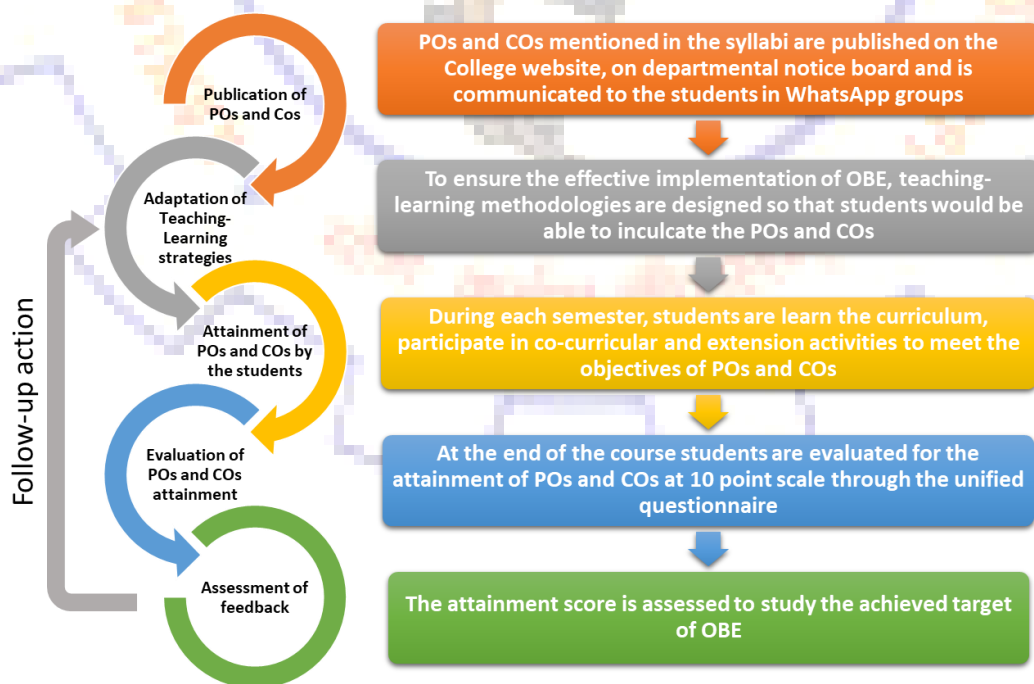
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## Introduction

Outcome-Based Education (OBE) is education in which an emphasis is given on a clearly articulated idea of what students are expected to know and be able to do. In other words what skills and knowledge they need to have, when they complete a course or program. It is sometimes also called performance-based education and is an attempt to measure educational effectiveness based on results rather than on inputs. The learning outcomes constitute the criteria by which curriculum is developed or redesigned, instructional materials are selected, teaching methods are adopted and evaluation is conducted. OBE helps the higher educational institutes to analyse, assess and map the curriculum learnt by students based on questions attempted to attain Program Outcomes (POs) and Course Outcomes (COs).

This institute adapted the OBE system along with the New Education Policy (NEP) 2020. All the programs and courses, which are covered under the umbrella of NEP 2020 have their own and very specific POs and COs. The POs and COs are clearly mentioned in the curriculum designed by the Directorate of Higher Education, Government of Uttar Pradesh and approved by Board of Studies (BoSs) of affiliating university, Dr. Ram Manohar Lohia Avadh University Ayodhya. This file contains POs and COs of all these programs and courses in consolidated form, which are also informed to the students on Departmental notice boards and in WhatsApp groups.



*Schematic presentation of Strategies of Outcome Based Education*

# Faculty of Sciences

## Department of Botany

### Programme specific outcomes (PSOs):

#### *B.Sc. I Year / Certificate course in Microbial Technology & Classical Botany*

This Programme imparts knowledge on various fields of plant biology through teaching, interactions and practical classes.

It shall maintain a balance between the traditional botany and modern science for shifting it towards the frontier areas of plant sciences with applied approach.

This syllabus has been drafted to enable the learners to prepare them for self-entrepreneurship and employment in various fields including academics as well as competitive exams.

Students would gain wide knowledge in following aspects:

1. Diversity of plants and microbes, their habitat, morphology, architecture and reproduction.
2. Plant disease causing microbes, symptoms & control.
3. Economic value of plants and their use in Human Welfare.

Programme: *Certificate Course in Microbial Technology & Classical Botany*

Year: I Semester: I/Paper-I

Subject: **Botany**

Course Code: B040101T

Course Title: **Microbiology & Plant Pathology**

**Course outcomes:** After the completion of the course the students will be able to:

1. Develop understanding about the classification and diversity of different microbes including viruses, Algae, Fungi & Lichens & their economic importance.
2. Develop conceptual skill about identifying microbes, pathogens, biofertilizers & lichens.
3. Gain knowledge about developing commercial enterprise of microbial products.
4. Learn host–pathogen relationship and disease management.

5. Learn Presentation skills (oral & writing) in life sciences by usage of computer & multimedia.
6. Gain Knowledge about uses of microbes in various fields.
7. Understand the structure and reproduction of certain selected bacteria algae, fungi and lichens
8. Gain Knowledge about the economic values of this lower group of plant community.

Programme: *Certificate Course in Microbial Technology & Classical Botany*

Year: **I Semester: I/Paper-II**

Subject: **Botany**

Course Code: B040102P

Course Title: **Techniques in Microbiology & Plant Pathology**

**Course outcomes:** After the completion of the course the students will be able:

1. Understand the instruments, techniques, lab etiquettes and good lab practices for working in a microbiology laboratory.
2. Develop skills for identifying microbes and using them for Industrial, Agriculture and Environment purposes.
3. Practical skills in the field and laboratory experiments in Microbiology & Pathology.
4. learn to identify Algae, Lichens and plant pathogens along with their Symbiotic and Parasitic associations.
5. Can initiate his own Plant & Seed Diagnostic Clinic
6. Can start own enterprise on microbial products.

**Programme /Class:** B.Sc.-I/ *Certificate Course in Microbial Technology & Classical Botany*

Year: **I Semester: II Paper-I**

Subject: **Botany**

Course Code: B040201T

Course Title: **Archegoniates and Plant Architecture**

**Course outcomes:**

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

1. Develop critical understanding on morphology, anatomy and reproduction of Bryophytes, Pteridophytes and Gymnosperms
2. Understanding of plant evolution and their transition to land habitat.
3. Understand morphology, anatomy, reproduction and developmental changes therein through typological study and create a knowledge base in understanding the basis of plant diversity, economic values & taxonomy of plants
4. Understand the details of external and internal structures of flowering plants.

Programme/Class: ***Certificate Course in Microbial Technology & Classical Botany***

Year: I Semester: **II Paper-II (Practical)**

Subject: **Botany**

Course Code: B040202P

Course Title: **Land Plants Architecture**

**Course outcomes:**

1. The students will be made aware of the group of plants that have given rise to land habit and the flowering plants.
1. Through field study they will be able to see these plants grow in nature and become familiar with the biodiversity.
2. Students would learn to create their small digital reports where they can capture the zoomed in and zoomed out pictures as well as videos in case they are able to find some rare structure or phenomenon related to these plants.
3. Develop an understanding by observation and table study of representative members of phylogenetically important groups to learn the process of evolution in a broad sense.
4. Understand morphology, anatomy, reproduction and developmental changes therein through typological study and create a knowledge base in understanding plant diversity, economic values & taxonomy of lower group of plants
5. Understand the composition, modifications, internal structure & architecture of flowering plants for becoming a Botanist.

**Programme specific outcomes (PSOs):**

***B.Sc. II Year/ (Diploma in Plant Identification, Utilization & Ethnomedicine)***

This course provides a broad understanding of identifying, growing and using plants. This course is primarily aimed to introduce people to the richness of plant diversity found in surrounding areas. Lecture sessions are designed to cover fundamental topics concerning classification of plants and their utilization required for understanding the flora and vegetation. Practical sessions are organized following theory for easy understanding of the various parts of the plants, structural organization of floral parts and diversity therein. Participants are taken to different locations covering a variety of habitats and forest types to acquaint them with the native flora. In the long run, will contribute towards building momentum for people's participation in environmental conservation without compromising on academic rigor and our rich wealth of knowledge inherited over generations.

1. The course will cover conventional topics in Field Botany like Evolutionary History & Diversity of plants, Complete Morphology, Nomenclature of plants, Systems of Classification, Keys to important Families of Flowering Plants, Field Data Collection & Herbarium Techniques.
2. The course is designed to become a commercial crop grower, florist, protected cultivator, green belt plant advisor to industries, pharmacologist & taxonomist.

Programme /Class: ***Diploma in Plant Identification, Utilization & Ethnomedicine***

Year: **II Semester: III Paper-I**

Subject: **Botany**

Course Code: B040301T

Course Title: **Flowering Plants Identification & Aesthetic Characteristics**

**Course outcomes:**

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

1. To gain an understanding of the history and concepts underlying various approaches to plant taxonomy and classification.
2. To learn the major patterns of diversity among plants, and the characters and types of data used to classify plants.
3. To compare the different approaches to classification with regard to the analysis of data.
4. To become familiar with major taxa and their identifying characteristics, and to develop in depth knowledge of the current taxonomy of a major plant family.



5. To discover and use diverse taxonomic resources, reference materials, herbarium collections, publications.
6. For the entrepreneur career in plants, one can establish a nursery, Start a landscaping business, Set up a farm Or Run a plantation consultancy firm.

Programme/Class: ***Diploma in Plant Identification, Utilization & Ethnomedicine***

Year: **II Semester: III Paper-II (Practical)**

Subject: **Botany**

Course Code: B040302P

Course Title: **Plant Identification technology**

**Course outcomes:**

After the completion of the course the students will be able:

1. To learn how plant specimens are collected, documented, and curated for a permanent record.
2. To observe, record, and employ plant morphological variation and the accompanying descriptive terminology.
3. To gain experience with the various tools and means available to identify plants.
4. To develop observational skills and field experience.
5. To identify a taxonomically diverse array of native plants.
6. To recognize common and major plant families.
7. To Understand aesthetic characters of flowering plants by making landscapes, gardens, bonsai, miniatures
8. Comprehend the concepts of plant taxonomy and classification of Angiosperms.

Programme /Class: ***Diploma in Plant Identification, Utilization & Ethnomedicine***

Year: **II Semester: IV Paper-I**

Subject: **Botany**

Course Code: B040401T

Course Title: **Economic Botany, Ethnomedicine and Phytochemistry**

**Course outcomes:**

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

1. Understand about the uses of plants –will know one plant-one employment
2. Understand phytochemical analysis related to medicinally important plants and economic products produced by the plants
2. know about the importance of Medicinal plants and its useful parts, economically important plants in our daily life and also about the traditional medicines and herbs, and its relevance in modern times.

Programme: ***Diploma in Plant Identification, Utilization & Ethnomedicine***

Year: **II Semester: IV Paper-II**

Subject: **Botany**

Course Code: B040402P

Course Title: **Commercial Botany & Phytochemical Analysis**

**Course outcomes:** After the completion of the course the students will be able to:

1. Know about the commercial products produced from plants.
2. Gain the knowledge about cultivation practices of some economic crops.
3. Understand about the ethnobotanical details of plants.
4. Learn about the chemistry of plants &herbal preparations
5. Can become a protected cultivator, aromatic oil producer, Pharmacologist or quality analyst in drug company

**Programme specific outcomes (PSOs):**

***B.Sc. III Year / Bachelor of Science***

The learning outcomes of a three years graduation course are aligned with programme learning outcomes but these are specific to-specific courses offered in a program. The core courses shall be the backbone of this framework whereas discipline electives, generic electives and skill enhancement courses would add academic excellence in the subject together with a multi-dimensional and multidisciplinary approach.

1. Understanding of plant classification systematics, evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology, anatomy, reproduction, genetics and molecular biology of various life-forms.
2. This course is suitable to produce expertise in conservation biology like ex-situ conservation, response to habitat change, genotype characterization and reproductive biology.

1. 3.Understanding of various analytical techniques of plant sciences, use of plants as industrial resources or as a human livelihood support system and is well versed with the use of transgenic technologies for basic and applied research in plants.
3. Understanding of various life forms of plants, morphology, anatomy, reproduction, genetics microbiology, molecular biology, recombinant DNA technology, transgenic technology and use of bioinformatics tools and databases and the application of statistics to biological data.
4. Entrepreneurship Skill Development, Understand the issues of environmental contexts and sustainable development, Inculcation of human values,
5. Strengthen mathematical and computational skills. Enable students to use ICT & AI effectively.
6. Develop good skills in the laboratory such as observation and evaluation by the use of modern tools and technology.

Programme/Class: **Bachelor of Science**

Year: **III** Semester: **V Paper-I**

Subject: BOTANY

Course Code: B040501T

Course Title: **Plant Physiology, Metabolism & Biochemistry**

**Course outcomes:**

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

1. Understand the role of Physiological and metabolic processes for plant growth and development.
2. Learn the symptoms of Mineral Deficiency in crops and their management.
3. Assimilate Knowledge about Biochemical constitution of plant diversity.
1. 4.Know the role of plants in development of natural products, nutraceuticals, dietary supplements, Antioxidants.

Programme/Class: **Bachelor of Science** Year: **III** Semester: **V Paper-II**

Subject: BOTANY

Course Code: B040502T

Course Title: **Molecular Biology & Bioinformatics**

**Course outcomes:**

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

1. Understand nucleic acids, organization of DNA in prokaryotes and Eukaryotes, DNA replication mechanism, genetic code and transcription process.
2. Know about Processing and modification of RNA and translation process, function and regulation of expression.
3. Gain working knowledge of the practical and theoretical concepts of bioinformatics

Programme/Class: **Bachelor of Science**

Year: **III Semester: V Paper-III**

Subject: **Botany**

Course Code: B040503P

Course Title: ***Experiments in physiology, Biochemistry & molecular biology***

**Course outcomes:**

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

1. Know and authentic the physiological processes undergoing in plants along with their metabolism
2. Identify Mineral deficiencies based on visual symptoms
3. Understand and develop skill for conducting molecular experiments for genetic Engineering.

Programme/Class: **Bachelor of Science**

Year: **III Semester: V Paper-IV**

Subject: **BOTANY**

Course Code: - B040504R Course Title: **Project in Botany for Pre-graduation**

**Course outcomes:**

1. Project work will supplement field experimental learning and deviations from classroom and laboratory transactions.
2. Project work will enhance the capability to apply gained knowledge and understanding for selecting, solving and decision-making processes.
3. It will promote creativity and the spirit of enquiry in learners.

4. They will learn to consult Scientists, libraries, laboratories and herbariums and learn importance of discussions, Botanical & field trips, print and electronic media, internet etc. along with data documentation, compilation, analysis & representation in form of dissertation writing.
5. It will enhance their abilities, enthusiasm, and interest.

Programme/Class: ***Bachelor of Science***

Year: **III Semester: VI Paper-I**

Subject: **Botany**

Course Code: B040601T

Course Title: **Cytogenetics, Plant Breeding & Nanotechnology**

**Course outcomes:** After the completion of the course the students will be able:

1. Acquire knowledge on cell ultrastructure.
2. Understand the structure and chemical composition of chromatin and concept of cell division.
3. Interpret the Mendel's principles, acquire knowledge on cytoplasmic inheritance and sex-linked inheritance.
4. Understand the concept of 'one gene one enzyme hypothesis' along with the molecular mechanism of mutation.

Programme/Class: ***Bachelor of Science***

Year: **III Semester: VI Paper-II**

Subject: **Botany**

Course Code: B040602T Course Title: **Ecology & Environment**

**Course outcomes:**

1. Acquaint the students with complex interrelationship between organisms and environment;
2. make them understand methods for studying vegetation, community patterns and processes, ecosystem functions, and principles of phytogeography.
3. This knowledge is critical in evolving strategies for sustainable natural resource management and biodiversity conservation.

Programme/Class: ***Bachelor of Science***

Year: **III** Semester: **VI Paper-III**

Subject: **Botany**

Course Code: B040603P

Course Title: **Lab on Cytogenetics, Conservation & Environment management**

**Course outcomes:** After the completion of the course the students will be able:

1. To perform all experiments related to the semester-i.e. Plant tissue cultured plants, conducting breeding on field, conserving and depolluting the environment.
2. Can be employed in environment impact assessment companies & start his own venture.

Programme/Class: **Bachelor of Science**

Year: **III** Semester: **VI /Project- II/ Paper-IV**

Subject: **BOTANY**

Course Code: - B040604R

Course Title: **Project in Botany for Graduation**

**Course outcomes:**

After completing this course, a student will have:

1. Project work will supplement field experimental learning and deviations from classroom and laboratory transactions.
2. Project work will enhance the capability to apply gained knowledge and understanding for selecting, solving and decision-making processes
3. It will promote creativity and the spirit of enquiry in learners.
4. They will learn to consult Scientists, libraries, laboratories and herbariums and learn importance of discussions, Botanical & field trips, print and electronic media, internet etc. along with data documentation, compilation, analysis & representation in form of dissertation writing
5. It will enhance their abilities, enthusiasm, and interest.

## Department of Zoology

### Program Specific Outcomes:

This course introduces System Biology and various functional components of an organism. Emphasis will be on physiological understanding abnormalities and anomalies associated with white blood cells and red blood cells. The course emphasizes cell identification, cell differentiation and cell morphology evaluation procedures. This will enhance hematology analytical skills along with skill of using many instruments. The students will learn the basic principles of genetics and how to prepare karyotypes to study the chromosomes. How chromosomal aberrations are inherited in humans by pedigree analysis in families. The students will have hands-on training in the techniques like microscopy, centrifugation and chromatography, and various biochemical techniques, preparation of slides which will help them in getting employment in pathology labs and contribute to health care system. The Certificate courses will enable students to apply for technical positions in government and private labs/institutes. The student at the completion of the course will be able to have a detailed and conceptual understanding of molecular processes viz. DNA to trait. The differential regulation of genes in prokaryotes and eukaryotes leads to the development of an organism from an embryo. The students will be able to understand and apply the principles and techniques of molecular biology which prepares students for further career in molecular biology. Independently execute a laboratory experiment using the standard methods and techniques. The principles of genetic engineering, gene cloning, immunology and related technologies will enable students to play an important role in applications of biotechnology in various fields like agriculture, forensic sciences, industry and human health and make a career out of it. Students can have their own start-ups as well.

The basic tools of bioinformatics will enable students to analyze large amount of genomic data and its application to evolutionary biology. Apply knowledge and awareness of the basic principles and concepts of biology, computer science and mathematics existing software effectively to extract information from large databases and to use this information in computer modeling. This programme aims to introduce students to animal diversity of invertebrates and vertebrates. The students will be taught about invertebrates and vertebrates using observational strategies, museum specimens and field reports. A variety of interacting processes generate an organism's heterogeneous shapes, size, and structural features. Inclusion of ecology and environmental sciences will enrich students with our world which is crucial for human wellbeing and prosperity. This section will provide new knowledge of the interdependence between people and nature that is vital for food production, maintaining clean air and water, and sustaining biodiversity in a changing climate. Students will also come to know about the basic principle of life, how a cell divides leading to the growth of an organism and also reproduces to form new organisms. The basic concepts of biosystematics,

evolutionary biology and biodiversity will enable students to solve the biological problems related to environment.

At the end of the course the students will be capable enough to comprehend the reason behind such a huge diversity of animals and reason out why two animals are grouped together or remain separate due to similarities and differences which exist at many levels along with ecological, environmental and cellular inputs.

***B.Sc. Ist. Sem. Course outcomes:***

The student at the completion of the course will be able to: Understand the structure and function of all the cell organelles. Know about the chromatin structure and its location. To be familiar with the basic principle of life, how a cell divides leading to the growth of an organism and also reproduces to form new organisms. How one cell communicates with its neighboring cells? Understand the basic principles of genetics and how genes (earlier called factors) are inherited from one generation to another. Understand the Mendel's laws and the deviations from conventional patterns of inheritance. Comprehend how environment plays an important role by interacting with genetic factors. How to detect chromosomal aberrations in humans and study the pattern of inheritance by pedigree analysis in families.

***B.Sc. Ist Sem. Course outcomes LAB:***

At the completion of the course students will learn Hands-on: 1. To use simple and compound microscopes. 2. To prepare slides and stain them to see the cell organelles. 3. To be familiar with the basic principle of life, how a cell divides leading to the growth of an organism and also reproduces to form new organisms. 4. The chromosomal aberrations by preparing karyotypes. 5. How chromosomal aberrations are inherited in humans by pedigree analysis in families. 6. The antigen-antibody reaction.

***B.Sc. II. Sem. Course outcomes:***

The student at the completion of the course will learn: To develop a deep understanding of structure of biomolecules like proteins, lipids and carbohydrates. How simple molecules together form complex macromolecules. To understand the thermodynamics of enzyme catalyzed reactions. Mechanisms of energy production at cellular and molecular levels. To understand systems biology and various functional components of an organism. To explore the complex network of these functional components. To comprehend the regulatory mechanisms for maintenance of function in the body.

***B.Sc. II Sem. Course outcomes (Lab):***



The student at the completion of the course will be able to: Understand the structure of biomolecules like proteins, lipids and carbohydrates Perform basic hematological laboratory testing, distinguish normal and abnormal hematological laboratory findings to predict the diagnosis of hematological disorders and diseases.

***B.Sc. III. Sem. Course outcomes:***

The student at the completion of the course will be able to have: A detailed and conceptual understanding of molecular processes viz. DNA to trait. A clear understanding of the processes of central dogma viz. transcription, translation etc. underlying survival and propagation of life at molecular level. Understanding of how genes are ultimately expressed as proteins which are responsible for the structure and function of all organisms. Learn how four sequences (3 letter codons) generate the transcripts of life and determine the phenotypes of organisms. How genes are regulated differently at different time and place in prokaryotes and eukaryotes.

***B.Sc. III. Sem. Course outcomes (Lab):***

The student at the completion of the course will be able to understand the basic principles of microscopy, working of different types of microscopes, Understand the basic techniques of centrifugation and chromatography for studying cells and separation of biomolecules • Understand the principle of measuring the concentrations of macromolecules in solutions by colorimeter and spectrophotometer and use them in Biochemistry. Learn about some of the commonly used advance DNA testing methods.

***B.Sc. IV. Sem. Course outcomes:***

The student at the completion of the course will be able to: Understand the principles of genetic engineering with hands-on experiments in mutation detection, testing of infectious diseases like Covid 19. Get introduced to DNA testing and utility of genetic engineering in forensic sciences. Apply knowledge and awareness of the basic principles and concepts of biology, computer science and mathematics existing software effectively to extract information from large databases and to use this information in computer modeling. Use bioinformatics tools to find out evolutionary/phylogenetic relationship of organisms using gene sequences. Get employment in Hospitals/Diagnostic and forensic labs/Counsel families with genetic disorders. Enable students to take up research in biological sciences.

***B.Sc. IV. Sem. Course outcomes (Lab):***

The student at the completion of the course will be able to: The student at the completion of the course will be able to: Demonstrate comprehensive identification abilities of non-chordate diversity. Explain structural and functional diversity of non-chordate. Explain evolutionary relationship amongst non-chordate groups,

Get employment in different applied sectors. Students can start their own business i.e., self-employments. Enable students to take up research in Biological Science.

***B.Sc. V. Sem. Course outcomes:***

The student at the completion of the course will be able to: Demonstrate comprehensive identification abilities of chordate diversity. Explain structural and functional diversity of chordates. Explain evolutionary relationship amongst chordates. Take up research in biological sciences.

***B.Sc. V. Sem. Course outcomes (Lab):***

The student at the completion of the course will be able to: Demonstrate comprehensive identification abilities of chordate and non- chordates diversity. Explain structural and functional diversity of chordates and non- chordates. Explain evolutionary relationship amongst chordates and non- chordates. Generate self-employment. Enable students to take up research in biological sciences.

***B.Sc. VI. Sem. Course outcomes:***

The student at the completion of the course will learn: Complexities and interconnectedness of various environmental levels and their functioning. Global environmental issues, their causes, consequences and amelioration. To understand and identify behaviours in a variety of taxa. The proximate and ultimate causes of various behaviours. About the molecules, cells, and systems of biological timing systems. Conceptualizing how species profitably inhabit in the temporal environment and space out their activities at different times of the day and seasons. To interpret the cause and effect of lifestyle disorders contributing to public understanding of biological timing. To understand the importance of wildlife conservation.

***B.Sc. VI. Sem. Course outcomes (Lab):***

The student at the completion of the course will be able to: To understand the basic concepts, importance, status and interaction between organisms and environment. Get employment in forest services, sanctuaries, conservatories etc. Enable students to take up research in wildlife.

## Department of Chemistry

### Program outcomes:

1. Students will have a firm foundation in the fundamentals and application of current chemical and scientific theories including those in Analytical, Inorganic, Organic and Physical Chemistry.
2. Students will be able to design and carry out scientific experiments as well as accurately record and analyse the results of such experiments.
3. Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems.
4. Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.
5. Students will appreciate the central role of chemistry in our society and use this as a basis for ethical behaviour in issues facing chemists including an understanding of safe handling of chemicals, environmental issues and key issues facing our society in energy, health and medicine.
6. Students will be able to explain why chemistry is an integral activity for addressing social, economic, and environmental problems.
7. Students will be able to function as a member of an interdisciplinary problem solving team.

Certificate in Bioorganic and Medicinal Chemistry will give the student a basic knowledge of all the fundamental principles of chemistry like molecular polarity, bonding theories of molecules, Periodic properties of more than 111 elements, mechanism of organic Reactions, Stereochemistry, basic mathematical concepts and computer knowledge, chemistry of carbohydrates, proteins and nucleic acids: medicinal chemistry, synthetic polymers and synthetic dyes. Students will be able to do qualitative, quantitative and biochemical analysis of the compounds in the laboratory. This certificate course is definitely going to prepare the students for various fields of chemistry and will give an insight into all the branches of chemistry and enable our students to join the knowledge and available opportunities related to chemistry in the government and private sector services particularly in the field of food safety, health inspector, pharmacist etc. Have a broad foundation in chemistry that stresses scientific reasoning and analytical problem solving with a molecular perspective.

### Course outcomes:

#### *B.Sc. I year Sem I*

#### *Course Title: Fundamentals of Chemistry*

There is nothing more fundamental to chemistry than the chemical bond. Chemical bonding is the language of logic for chemists. Chemical bonding enables scientists to take the 100-plus elements of the periodic table and combine them in myriad ways to form chemical compounds and materials. Periodic trends, arising from the arrangement of the periodic table, provide chemists with an invaluable tool to quickly predict an element's properties. These trends exist because of the similar atomic structure of the elements within their respective group families or periods, and because of the periodic nature of the elements. Reaction mechanism gives the fundamental knowledge of carrying out an organic reaction in a step-by-step manner. This course will provide a broad foundation in chemistry that stresses scientific reasoning and analytical problem solving with a molecular perspective. Students will gain an understanding of:

1. Molecular geometries, physical and chemical properties of the molecules.
2. Current bonding models for simple inorganic and organic molecules in order to predict structures and important bonding parameters.
3. The chapter Recapitulation of basics of organic chemistry gives the most primary and utmost important knowledge and concepts of organic Chemistry.
4. This course gives a broader theoretical picture in multiple stages in an overall chemical reaction. It describes reactive intermediates, transition states and states of all the bonds broken and formed. It enables to understand the reactants, catalyst, stereochemistry and major and minor products of any organic reaction.
5. It describes the types of reactions and the Kinetic and thermodynamic aspects one should know for carrying out any reaction and the ways how the reaction mechanism can be determined.
6. The chapters Stereochemistry gives the clear picture of two-dimensional and three-dimensional structure of the molecules, and their role in reaction mechanism.

**Course Title:** *Quantitative Analysis*

**Course outcomes:**

Upon completion of this course the students will have the knowledge and skills to: understand the laboratory methods and tests related to estimation of metals ions and estimation of acids and alkali contents in commercial products.

1. Potability tests of water samples.
2. Estimation of metal ions in samples
3. Estimation of alkali and acid contents in samples
4. Estimation of inorganic salts and hydrated water in samples

**B.Sc. I year Sem II**

***Course outcomes:***

***Course Title: Bioorganic and Medicinal Chemistry***

Biomolecules are important for the functioning of living organisms. These molecules perform or trigger important biochemical reactions in living organisms. When studying biomolecules, one can understand the physiological function that regulates the proper growth and development of a human body. This course aims to introduce the students with basic experimental understanding of carbohydrates, amino acids, proteins, nucleic acids and medicinal chemistry. Upon completion of this course students may get job opportunities in food, beverage and pharmaceutical industries.

***Course Title: Biochemical Analysis***

This course will provide basic qualitative and quantitative experimental knowledge of biomolecules such as carbohydrates, proteins, amino acids, nucleic acids drug molecules. Upon successful completion of this course students may get job opportunities in food, beverage and pharmaceutical industries.

***Program outcomes/course outcomes (POs/COs):***

***B.Sc. II year Sem III***

***Name of the program: Diploma in Chemical Dynamics and Analytical Techniques***

This will provide the theoretical as well as practical knowledge of handling chemicals, apparatus, equipment and instruments. The knowledge about feasibility and velocity of chemical reactions through chemical kinetics, chemical equilibrium, phase equilibrium, kinetic theories of Gases, solid and liquid states, coordination chemistry, metal carbonyls and bioinorganic will enable the students to work as chemists in pharmaceutical industries.

The knowledge about atomic structure, quantum mechanics, various spectroscopic tools and separation techniques will make the students skilled to work in industries: Achieved the skills required to succeed in the chemical industry like cement industries, agro-product, paint industries, rubber industries, petrochemical industries, food processing industries, Fertilizer industries, pollution monitoring and control agencies etc. Got exposures of a breadth of experimental techniques using modern instrumentation.

Learn the laboratory skills and safely measurements to transfer and interpret knowledge entirely in the working environment. Monitoring of environment issues: monitoring of environmental pollution problems of atmospheric sciences, water chemistry and soil chemistry and design processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

***Course Title: Physical Analysis***

**Course Outcomes:** Upon successful completion of this course students should be able to calibrate apparatus and prepare solutions of various concentrations, estimation of components through volumetric analysis; to perform dilatometric experiments: one and two component phase equilibrium experiments.

***Program outcomes/course outcomes (POs/COs):***

***B.Sc. II year Sem IV***

***Course Title: Quantum Mechanics and Analytical Techniques***

**Course Outcomes:** Upon successful completion of this course students should be able to describe atomic structure, elementary quantum mechanics, wave function and its significance; Schrodinger wave equation and its applications; Molecular orbital theory, basic ideas – Criteria for forming molecular orbital from atomic orbitals, Molecular Spectroscopy,

Rotational Spectrum, vibrational Electronic Spectrum: photo chemistry and kinetics of photo chemical reaction. Analytical chemistry plays an enormous role in our society, such as in drug manufacturing, process control in industry, environmental monitoring, medical diagnostics, food production, and forensic surveys. It is also of great importance in

different research areas. Analytical chemistry is a science that is directed towards creating new knowledge so that chemical analysis can be improved to respond to increasing or new demands.

Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.

Students will be able to function as a member of an interdisciplinary problem-solving team. Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems

Students will gain an understanding of how to determine the structure of organic molecules using IR and NMR spectroscopic techniques. To develop basic skills required for purification, solvent extraction, TLC and column chromatography.

***Course Title: Instrumental Analysis***

**Course outcomes:** Upon completion of this course, chemistry majors are able to employ critical thinking and scientific inquiry in the performance, design, interpretation and documentation of laboratory

experiments, at a level suitable to succeed at an entry-level position in chemical industry or a chemistry graduate program.

Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.

Students will be able to function as a member of an interdisciplinary problem-solving team. Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems

Students will gain an understanding of how to determine the structure of organic molecules using IR and NMR spectroscopic techniques

To develop basic skills required for purification, solvent extraction, TLC and column chromatography

***Program outcomes/course outcomes (POs/COs):***

***B.Sc. III year Sem V***

***Course Title: Organic Synthesis***

**Course outcomes:** Hydrocarbons are the principal constituents of petroleum and natural gas. They serve as fuels and lubricants as well as raw materials for the production of plastics, fibers, rubbers, solvents and industrial chemicals.

This course will provide a broad foundation in for the synthesis of hydrocarbons. Hydroxy and carbonyl compounds are industrially important compounds The industries of plastics, fibers, petroleum and rubbers will specially recognize this course. Students will gain an understanding of which are used as solvents and raw material for synthesis of drug and other pharmaceutically important compounds.

1. Synthesis and chemical properties of aliphatic and aromatic hydrocarbons
2. Synthesis and chemical properties of alcohols, halides carbonyl compounds, carboxylic acids and esters
3. How to design and synthesize aliphatic and aromatic hydrocarbons.
4. How to convert aliphatic and aromatic hydrocarbons to other industrially important compounds
5. Functional group interconversion.

***Course Title: Rearrangements and Chemistry of Group Elements***

**Course outcomes:** This paper provides detailed knowledge of synthesis of various class of organic compounds and functional groups inter conversion. Organic synthesis is the most important branch of

organic chemistry which provides jobs in production & QC departments related to chemicals, drugs, medicines, FMCG etc. industries.

It relates and gives an analytical aptitude for synthesizing various industrially important compounds. This paper also provides a detailed knowledge on the elements present in our surroundings, their occurrence in nature. Their position in periodic table, their physical and chemical properties as well as their extraction.

This paper also gives detailed understanding of the s, p, d and f block elements and their characteristics.

***Program outcomes/course outcomes (POs/COs)***

***B.Sc. III year Sem VI***

***Course Title: Organic Synthesis B***

**Course outcomes:** This paper provides detailed knowledge of synthesis of various class of organic compounds and functional groups inter conversion. Organic synthesis is the most important branch of organic chemistry which provides jobs in production & QC departments related to chemicals, drugs, medicines, FMCG etc. industries. The study of natural products and heterocyclic compounds offers an excellent strategy toward identifying novel

biological probes for a number of diseases. Historically, natural products have played an important role in the development of pharmaceutical drugs for a number of diseases including cancer and infection.

1. It relates and gives an analytical aptitude for synthesizing various industrially important compounds.
2. Learn the different types of alkaloids, & terpenes etc and their chemistry and medicinal importance.
3. Explain the importance of natural compounds as lead molecules for new drug discovery.

***Course Title: Chemical Energetics and Radio Chemistry***

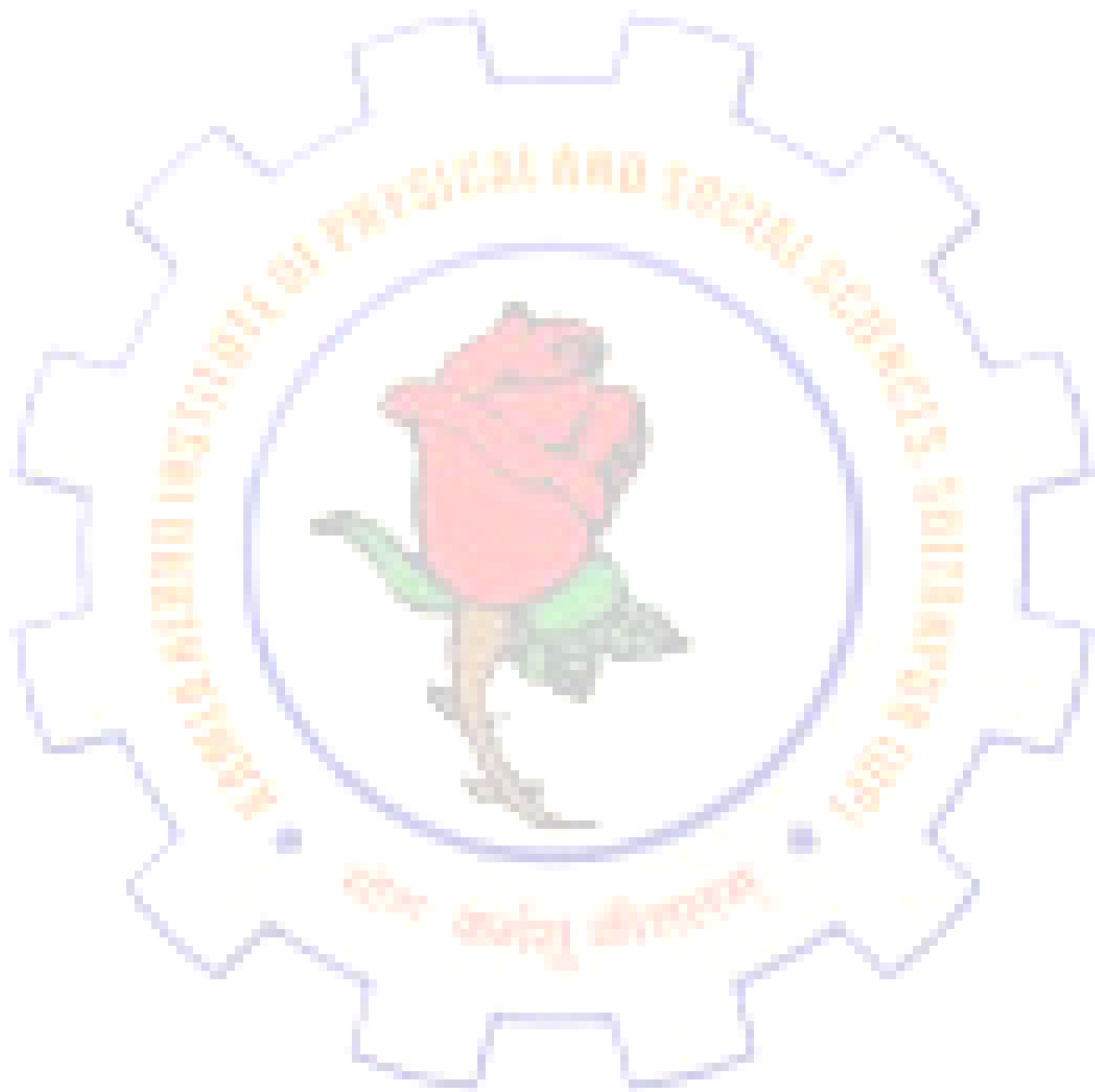
**Course outcomes:** Upon successful completion of this course students should be able to describe laws of thermodynamics and its applications, phase equilibria of one and two component system, electro chemistry, ionic equilibrium applications of conductivity and potentiometric measurements

***Course Title: Analytical Methods***



**Course Outcomes:** Upon successful completion of this course students should be able to quantify the product

obtained through gravimetric method; determination of  $R_f$  values and identification of organic compounds through paper and thin layer chromatography laboratory techniques: perform thermochemical reactions.



## Department of Mathematics

### Program outcomes/course outcomes (POs/COs): I Sem

1. The program outcome is to give foundation knowledge for the students to understand basics of mathematics including applied aspect for developing enhanced quantitative skills and pursuing higher mathematics and research as well.
2. By the time students complete the course they will have wide ranging application of the subject and have the knowledge of real valued functions along with sequence and series. They will also be able to know about convergence of sequence and series. Also, they have knowledge about curvature, envelope and evolutes and trace curve in polar curves, Cartesian curves as well as parametric curves.
3. The main objective of the course is to equip the student with necessary analytic and technical skills. By applying the principles of integral he learns to solve a variety of practical problems in science and engineering
4. The student is equipped with standard concepts and tools at an intermediate to advance level that will serve him well towards taking more advance level course in mathematics.
5. The main objective of the course is to equip the student to plot the different graph and solve the different types of equations by plotting the graph using different computer software such as Sage Math/Mathematica/MATLAB /Maple /Scilab/ etc.
6. After completion of this course student would be able to know the convergence of sequences through plotting.
7. Student would be able to verify Bolzano-Weierstrass theorem through plotting the sequence.
8. Student would be able to verify Cauchy's root test by plotting  $n$ th roots and Ratio test by plotting the ratio of  $n$ th and  $(n+1)$ th term.

### Program outcomes/course outcomes (POs/COs): II Sem

1. The subjects of the course are designed in such a way that they focus on developing mathematical skills in matrices, differential equation and geometry from basic level to depth of knowledge.

2. The student will be able to find the rank, eigen values of matrices and study the linear homogeneous and non-homogeneous equations. The course in differential equation intends to develop problem solving skills for solving various types of differential equations
3. The students will be capable of learn and visualize the fundamental ideas about coordinate geometry and learn to describe some of the surfaces by using analytical geometry
4. On successful completion of the course students have gained knowledge about regular geometrical figures and their properties. They have the foundation for higher course in Geometry.
5. The objective of the course is to familiarize the students to use mathematical softwares such as Sage Math/ Mathematica / MATLAB /Maple /Scilab/ etc.
6. After completion of course students would be able to perform various operation related to matrices such as addition, multiplication, finding inverse, and finding Eigen-values, Eigen-vectors
7. Students would be able to trace complex number, trigonometric function, conics and coinicoids.
8. Students would be able to visualize the solution of ordinary differential equation.

### **Program outcomes/course outcomes Sem. III**

#### **Program outcomes/course outcomes (POs/COs):**

1. Group theory is one of the building blocks of modern algebra. Objective of this course is to introduce students to basic concepts of Group theory, Ring theory and their properties.
2. A student learning this course gets a concept of Group, Ring, Integral Domain and their properties. This course will lead the student to basic course in advanced mathematics particularly in Algebra.
3. The course gives emphasis to enhance students' knowledge of functions of two variables, Laplace Transforms, Fourier Transforms and series.
4. On successful completion of the course students would have acquire knowledge about higher different mathematical methods and will help him in going for higher studies and research.
5. The objective of the course is to familiarize the students to use mathematical softwares such as SageMath/ Mathematica / MATLAB /Maple /Scilab/ etc.
6. After completion of course students would be able to visualize important properties related to Group and Cyclic group
7. The course will enable the students to solve problems of continuity and differentiability of function of two variables, Maxima and Minima, Laplace transforms and inverse Laplace transforms.

8. Students would be able to approximate the expansion of the function of two variables by Taylor's Theorem and plot the outputs.

**Program outcomes/course outcomes: B.Sc. Sem. IV**

**Program outcomes/course outcomes (POs/COs):**

1. The objective of this course is to familiarize the students with various methods of solving differential equations, partial differential equations of first order and second order and to have qualitative applications.
2. A student doing this course is able to solve differential equations and is able to model problems in nature using ordinary differential equations. After completing this course, a student will be able to take more courses on wave equation, heat equation, diffusion equation, gas dynamics, non-linear evolution equation etc. These entire courses are important in engineering and industrial applications for solving boundary value problems
3. The object of the course is to give students knowledge of basic mechanics such as simple harmonic motion, motion under other laws and forces
4. The student, after completing the course can go for higher quality problems in mechanics such as hydrodynamics. This will be helpful in getting employment in industry.
5. The objective of the course is to familiarize the students to use mathematical softwares such as SageMath/ Mathematica / MATLAB /Maple /Scilab/ etc
6. This course will enable the students to visualize the solution of first order partial differential equation.
7. After completion of course students will be capable of solving second order ordinary differential equation such as Legendre and Bessel differential equation.
8. This course will enable the students to visualize the solution related to the problems of Kinematics, SHM, and Resisting medium and central orbit.

## Department of Physics

### Programme specific Outcome

#### B.Sc.-I Year Physics (Certificate in Basic Physics and Semiconductor Devices)

This programme aims to give students the competence in the methods and techniques of calculations using Newtonian Mechanics and Thermodynamics. At the end of the course the students are expected to have hands on experience in modeling, implementation and calculation of physical quantities of relevance.

An introduction to the field of Circuit Fundamentals and Basic Electronics which deals with the physics and technology of semiconductor devices is practically useful and gives the students an insight in handling electrical and electronic instruments. Experimental physics has the most striking impact on the industry wherever the instruments are used. The industries of electronics, telecommunication and instrumentation will specially recognize this course.

#### *Course Outcomes (COs) of B.Sc.-I Sem. Physics.*

##### **Theory:**

1. Recognize the difference between scalars, vectors, pseudo-scalars and pseudo-vectors.
2. Understand the physical interpretation of gradient, divergence and curl.
3. Comprehend the difference and connection between Cartesian, spherical and cylindrical coordinate systems.
4. Know the meaning of 4-vectors, Kronecker delta and Epsilon (Levi Civita) tensors.
5. Understand the dynamics of planetary motion and the working of Global Positioning System (GPS).
6. Comprehend the different features of Simple Harmonic Motion (SHM) and wave propagation.

##### **Practical:**

1. Experimental physics has the most striking impact on the industry wherever the instruments are used to study and determine the mechanical properties.
2. Measurement precision and perfection is achieved through Lab Experiments.
3. Online Virtual Lab Experiments give an insight in simulation techniques and provide a basis for modeling.

#### **Course Outcomes (COs) of B.Sc.-II Sem. Physics:**

##### **Theory:**

1. Recognize the difference between reversible and irreversible processes.
2. Understand the physical significance of thermodynamical potentials.
3. Comprehend the kinetic model of gases w.r.t. various gas laws.
4. Study the implementations and limitations of fundamental radiation laws.
5. Utility of AC bridges.
6. Recognize the basic components of electronic devices.
7. Design simple electronic circuits.
8. Understand the applications of various electronic instruments.

**Practical:**

1. Experimental physics has the most striking impact on the industry wherever the instruments are used to study and determine the thermal and electronic properties.
2. Measurement precision and perfection is achieved through Lab
  1. Experiments.
  2. Online Virtual Lab Experiments give an insight in simulation techniques and provide a basis for modeling.

**Programme Specific Outcome**

**B.Sc.-II Year Physics (Diploma in Applied Physics with Electronics)**

This programme aims to introduce the students with Electromagnetic Theory, Modern Optics and Relativistic Mechanics. Electromagnetic Wave Propagation serves as a basis for all communication systems and deals with the physics and technology of semiconductor optoelectronic devices. A deeper insight in Electronics is provided to address the important components in consumer Optoelectronics, IT and Communication devices, and in industrial instrumentation. The need of Optical instruments and Lasers is surely highlighted everywhere and at the end of the course the students are expected to get acquainted with applications of Lasers in technology. Companies and R&D Laboratories working on Electromagnetic properties, Laser Applications, Optoelectronics and Communication Systems are expected to value this course.

**Course Outcomes (COs) of B.Sc.-III Sem. Physics:**

**Theory:**

1. Better understanding of electrical and magnetic phenomenon in daily life.
2. To troubleshoot simple problems related to electrical devices.
3. Comprehend the powerful applications of ballistic galvanometer.

4. Study the fundamental physics behind reflection and refraction of light (electromagnetic waves).
5. Study the working and applications of Michelson and Fabry-Perot interferometers.
6. Recognize the difference between Fresnel's and Fraunhofer's class of diffraction.
7. Comprehend the use of polarimeters.
8. Study the characteristics and uses of lasers.

**Practical:**

1. Experimental physics has the most striking impact on the industry wherever the instruments are used to study and determine the electric and magnetic properties.
2. Measurement precision and perfection is achieved through Lab Experiments.
3. Online Virtual Lab Experiments give an insight in simulation techniques and provide a basis for modeling.

**Course Outcomes (COs) of B.Sc.-IV Sem. Physics:**

**Theory:**

1. Recognize the difference between the structure of space & time in Newtonian & Relativistic mechanics.
2. Understand the physical significance of consequences of Lorentz transformation equations.
3. Comprehend the wave-particle duality.
4. Develop an understanding of the foundational aspects of Quantum Mechanics.
5. Study the comparison between various biasing techniques.
6. Study the classification of amplifiers.
7. Comprehend the use of feedback and oscillators.
8. Comprehend the theory and working of optical fibers along with its applications.

**Practical:**

1. Basic Electronics instrumentation has the most striking impact on the industry wherever the components / instruments are used to study and determine the electronic properties.
2. Measurement precision and perfection is achieved through Lab Experiments.
3. Online Virtual Lab Experiments give an insight in simulation techniques and provide a basis for modeling.

**Programme Specific Outcomes**

### **B.Sc.-III Year Physics (Degree in Bachelor of Science)**

This programme contains very important aspects of modern day course curriculum, namely, Classical, Quantum and Statistical computational tools required in the calculation of physical quantities of relevance in interacting many body problems in physics. It introduces the branches of SolidState Physics and Nuclear Physics that are going to be of utmost importance at both undergraduate and graduate level. Proficiency in this area will attract demand in research and industrial establishments engaged in activities involving applications of these fields. This course amalgamates the comprehensive knowledge of Analog & Digital Principles and Applications. It presents an integrated approach to analog electronic circuitry and digital electronics. Present course will attract immense recognition in R&D sectors and in the entire cutting edge technology based industry.

#### **Course Outcomes (COs) of B.Sc.-V Sem. Physics:**

##### **Theory**

1. Understand the concepts of generalized coordinates and D'Alembert's principle.
2. Understand the Lagrangian dynamics and the importance of cyclic coordinates.
3. Understand the classical and quantum statistical distribution laws.
4. Study the applications of statistical distribution laws.
5. Understand the significance of operator formalism in Quantum mechanics.
6. Develop the technique of solving Schrodinger equation for 1D and 3D problems.
7. Comprehend the success of Vector atomic model in the theory of Atomic spectra.
8. Develop an understanding of the fundamental aspects of Molecular spectra.

##### **Practical:**

1. Basic Electronics instrumentation has the most striking impact on the industry wherever the components / instruments are used to study and determine the electronic properties.
2. Measurement precision and perfection is achieved through Lab Experiments.
3. Online Virtual Lab Experiments give an insight in simulation techniques and provide a basis for modeling.

#### **Programme Specific Outcomes:**

### **B.Sc.-III Year Physics (Degree in Bachelor of Science)**

This programme contains very important aspects of modern day course curriculum, namely, Classical, Quantum and Statistical computational tools required in the calculation of physical quantities of relevance



in interacting many body problems in physics. It introduces the branches of Solid State Physics and Nuclear Physics that are going to be of utmost importance at both undergraduate and graduate level. Proficiency in this area will attract demand in research and industrial establishments engaged in activities involving applications of these fields. This course amalgamates the comprehensive knowledge of Analog & Digital Principles and Applications. It presents an integrated approach to analog electronic circuitry and digital electronics. Present course will attract immense recognition in R&D sectors and in the entire cutting edge technology based industry.

**Course Outcomes (COs) of B.Sc.-VI Sem. Physics:**

**Theory**

1. Understand the crystal geometry w.r.t. symmetry operations.
2. Study various properties based on crystal bindings.
3. Study the salient features of nuclear forces & radioactive decays.
4. Understand the classification and properties of basic building blocks of nature.
5. Study the drift and diffusion of charge carriers in a semiconductor.
6. Understand the Two-Port model of a transistor.
7. Understand various number systems and binary codes.
8. Familiarize with binary arithmetic.

**Practical:**

1. Basic Electronics instrumentation has the most striking impact on the industry wherever the components / instruments are used to study and determine the electronic properties.
2. Measurement precision and perfection is achieved through Lab Experiments.
3. Online Virtual Lab Experiments give an insight in simulation techniques and provide a basis for modeling.

## Department of Environmental Sciences

### **Program Outcome (B.Sc.1<sup>st</sup> Year)**

#### **Program outcomes (POs):**

1. The aim is to build conceptual understanding of students by exposing them to the basic principles behind various environmental processes.
2. To introduce students to the basic concepts of ecology its different branches, scope and ecosystem dynamics along with the various ecosystem functions.
3. They also be able to understand the good laboratory practices, meteorological parameters and to know the strategies for sustainable management and carrying capacity.

#### ***Course Outcome (B.Sc. 1<sup>st</sup> SEM):***

##### **Course outcomes (COs):**

1. Learn fundamental concept of Environmental science.
2. Develop understanding about Environmental education, justice and environmentalism.
3. Gain knowledge about origin of life and related theories.
4. Able to understand the relationship between man and environment.
5. Understand the structure and composition of different sphere of earth.
6. Also able to understand the different meteorological parameters.
7. Understand the Good Laboratory Practices including Dos & DON'Ts in the laboratory.
8. Learn interaction of human with environment.
9. Develop understanding about local environmental problems and able to find remedy.
10. Gain knowledge about different meteorological parameters.

#### ***Course Outcome (B.Sc. 2<sup>nd</sup> SEM):***

##### ***Course outcomes (COs):***

1. Learn basic elements of ecology and environmental factors.
2. Developing understanding about ecosystem dynamics.
3. Understand the different functions played by ecosystem.
4. Learn the positive and negative interaction of the organism.
5. Develop conceptual skills about biogeochemical cycles.
6. Survey skill of vegetation, insects and other animals.
7. Learn sampling techniques for water and soil samples.
8. Understand to set up an aquarium.
9. Practical skills for analyzing the quadrat study of grassland vegetation.

### **Program Outcome (B.Sc.2<sup>nd</sup> Year):**

### **Program outcomes (POs):**

1. To enrich the knowledge on biodiversity its value and various approach for conservations.
2. Make students aware of biodiversity of India, biogeographic zones and role of local communities and traditional knowledge in conservation. Educate the students on source, classification, and impact of air, water and soil pollution.
3. The students will also recognize the various control measures of pollution problems.
4. Understand the solid waste pollution, noise pollution, radioactive and thermal pollution and related consequences.
5. In addition, also get the knowledge of sustainable management of wastes.

### **Course Outcome (B.Sc. 3<sup>rd</sup> SEM):**

#### **Course outcomes (COs):**

1. Gain knowledge on biodiversity its value and various approach for conservations.
2. Biodiversity of India and role of local communities and traditional knowledge in conservation.
3. Develop knowledge about biodiversity identification and IUCN.
4. Understand the various conservation process.
5. Learn wildlife its importance, threat and management.
6. Learn to prepare the field report and herbarium sheet.
7. Practical skills about analyses of primary productivity and chlorophyll content.
8. Gain knowledge on analysis and interpretation of different physical properties of soil.

### **Course Outcome (B.Sc.4<sup>th</sup> SEM)**

#### **Course outcomes (COs):**

1. Understand the basic concept of pollution and its effect on environment.
2. Develop understanding about history, sources, types and effect of air, water and soil pollution.
3. Gain skills on various control measures of pollution problems.
4. Understand the solid waste pollution, noise pollution, radioactive and thermal pollution.
5. Gain knowledge about sustainable management of different wastes.
6. Practical knowledge for the determination of different water parameters.
7. Practical know how for the analyses of different air pollutants.
8. Gain knowledge on segregation and components of waste.

## **Program Outcome (B.Sc.3rd Year)**

### **Program outcomes (POs):**

1. To develop the understanding on natural resources and their significance and to know the strategies for sustainable management.
2. Understand the basic principles and application of remote sensing and GIS techniques.
3. Impart knowledge on microbial diversity and recent advancement methods in the analysis of microbial diversity.
4. Provide in-depth knowledge of role of beneficial and pathogenic microorganisms in environment.
5. Understand the application of microbes for production of different eco-friendly products.
6. Impart knowledge in molecular biotechnology and its applications in Environmental management and conservation.
7. Make students aware about Bioethics, biosafety and IPR.
8. Understand the basic laws, act, treaty, public policies and PIL.
9. Environment provisions in constitution, power and functions of government agencies for pollution control.
10. To introduce students to the general environmental awareness, current environmental priorities in India and basic of statistics and instrumentations.

### **Course Outcome (B.Sc.5<sup>th</sup> SEM)**

#### **Course outcomes (COs):**

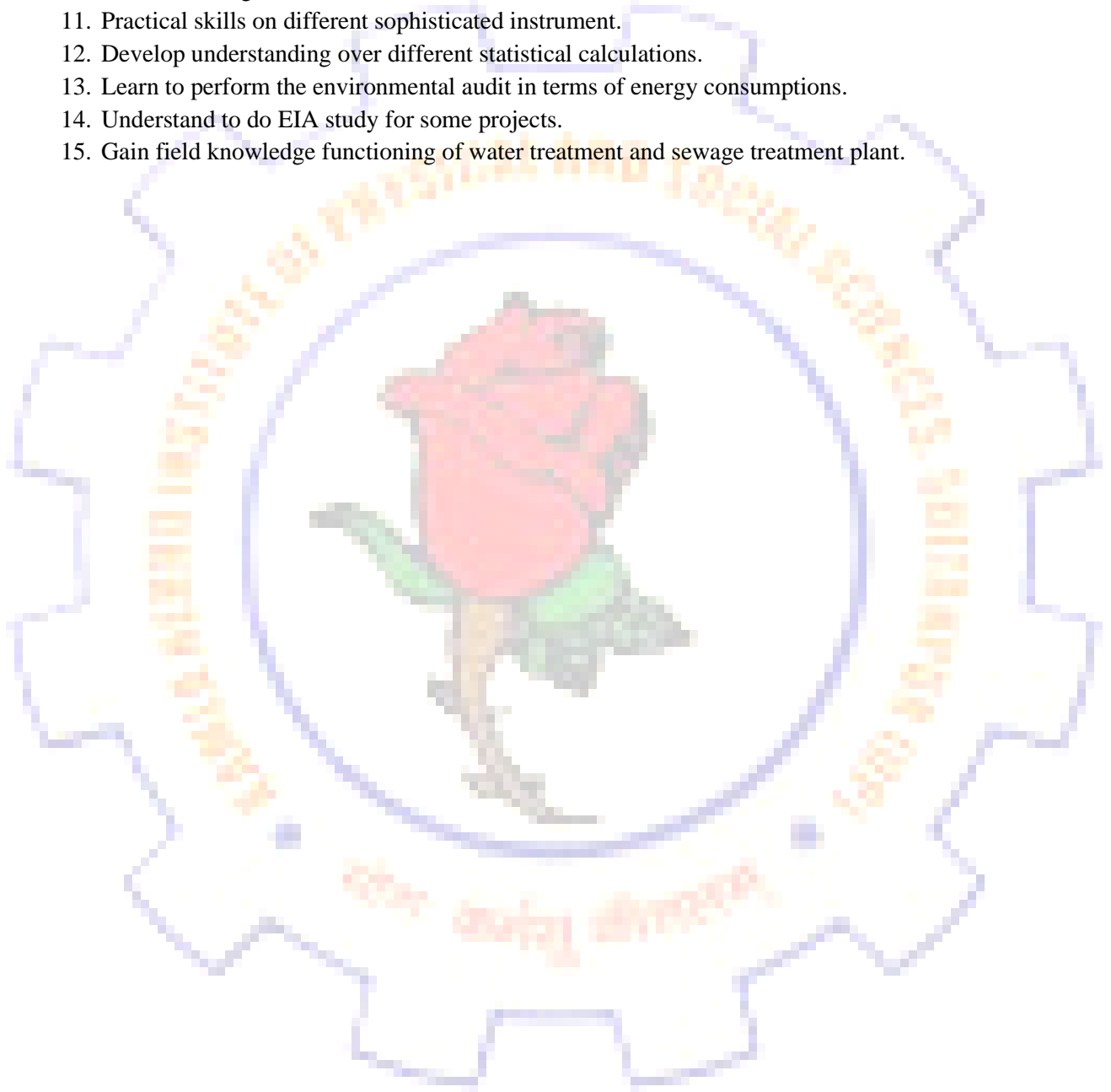
1. Impart knowledge on microbial diversity and recent advancement.
2. Gain in-depth knowledge of role of beneficial and pathogenic microorganisms in environment.
3. Understand the application of microbes for production of different eco-friendly products.
4. Understand molecular biotechnology and its applications in Environmental management.
5. Learn about Bioethics, biosafety and IPR.
6. Understand the morphological and anatomical adaptations of different plants species.
7. Learn to identify the rocks and minerals.
8. Gain practical skills of microbiology techniques.
9. Able to isolate the bacteria from different environmental matrices.
10. Develop understanding about the heavy metals and their presence identification.

### **Course Outcome (B.Sc.6<sup>th</sup> SEM)**

#### **Course outcomes (COs):**

1. Understand the basic laws, act, treaty related to environment.
2. Gain knowledge on public policies and PIL.
3. Understand the Environment provisions in constitution

4. Able to know the power and functions of government agencies for pollution control.
5. Learn the national action plan for sustainable environment.
6. Develop understanding about environmental impact assessment and auditing.
7. Learn about general national environmental movements.
8. Able to understand the environmental priorities in India.
9. Develop understanding about different environmental disasters and their management.
10. Gain knowledge on basic of statistics and instrumentation.
11. Practical skills on different sophisticated instrument.
12. Develop understanding over different statistical calculations.
13. Learn to perform the environmental audit in terms of energy consumptions.
14. Understand to do EIA study for some projects.
15. Gain field knowledge functioning of water treatment and sewage treatment plant.



## Department of Microbiology

### Program outcomes/course outcomes (POs/COs) B.Sc. Ist Sem:

1. Students will be able to acquire, articulate, retain, and apply specialized skills and knowledge relevant to microbiology.
2. Students will be able to appreciate the diversity of microorganisms and microbial communities inhabiting a multitude of habitats, understand their pathogenic as well beneficial significance to man and nature.
3. Students will acquire and demonstrate proficiency in good laboratory practices in a microbiological laboratory and be able to explain the theoretical basis and practical skills of the tools/technologies commonly used to study this field.

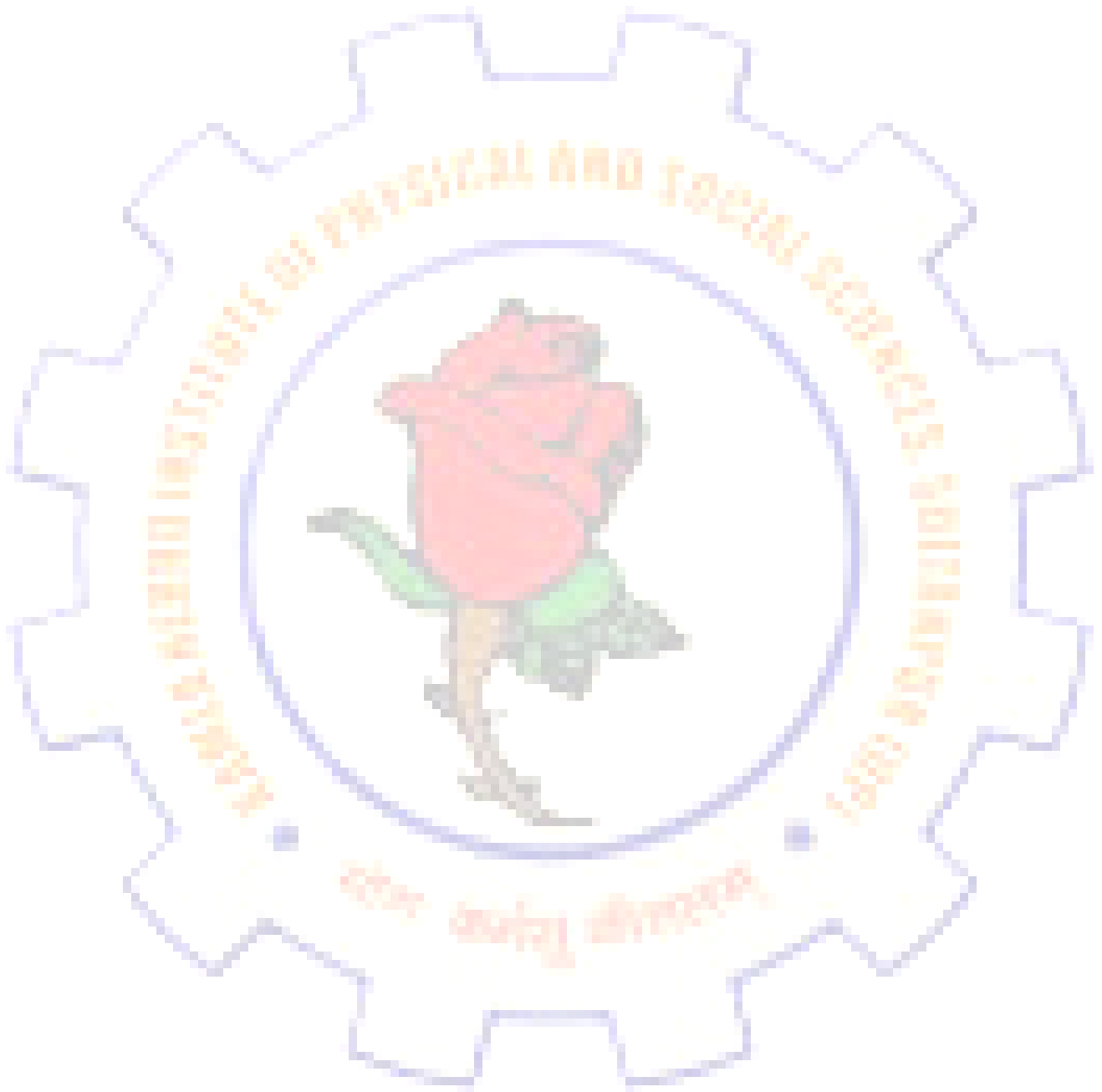
### Program outcomes/course outcomes (POs/COs) B.Sc. IInd Sem:

1. Students will develop familiarity and understanding of the microbiology concepts as relevant to various areas such as biochemistry, microbial physiology, molecular biology and genetics.
2. Student will exhibit reasonable abilities in the utilization of instruments, advances and techniques common to microbiology, and apply the logical strategy and theory testing in the plan and execution of examinations.
3. Students will be adequately capable to utilize microbiology information and abilities to analyze problems involving microorganisms, articulate these with peers and undertake remedial measures. Students will be able to describe how microorganisms obtain energy, metabolism, reproduction, survival, and interactions with their environment, hosts, and host populations.
4. Students will be able to work in a variety of fields, including biological and medical science in higher education institutions, public health, environmental organizations, and the food, dairy, pharmaceutical, and biotechnology industries.

### Program outcomes/course outcomes (POs/COs) B.Sc. IIIrd Sem:

1. understanding of the basic principles of thermodynamics applied to biological systems, structures of carbohydrates, lipids, proteins and nucleic acids, the basic concepts of enzyme biochemistry including enzyme kinetics, and will become aware of different variants of enzymes found in living cells.
2. acquainted with the diverse physiological groups of bacteria/archaea and microbial transport systems, depth knowledge of patterns of bacterial growth, bacterial growth curve, calculation of generation time and specific growth rate, and effect of the environment on growth.
3. apprehend how biochemical pathways are used by bacteria for energy generation and conservation during growth on glucose under aerobic and anaerobic conditions, learn about the fermentation process in microbes.

4. familiar with the physiology of nitrogen fixation and assimilation of inorganic nitrogen by bacteria and understand how interactions between microbes and the environment affect cellular physiology.



# Faculty of Arts

## Department of Economics

**Course Title: Undergraduate**

**Program-specific Outcomes (PSOs):**

Students after completing graduation will be able to learn:

1. The behavioural patterns of different economic agents, advance theoretical issues and their applications.
2. Understand the basic concept of microeconomics.
3. Understanding basic concepts of Macroeconomics.
4. Acquaint with some basic statistical methods to be applied in economics.
5. Acquaint with some basic mathematical methods to be applied in economics.
6. Acquaint with some basic theoretical concepts of public finance.
7. Acquaint with the measurement of development with the help of theories along with the conceptual issues of poverty and inequalities with Indian perspectives.
8. Delineate the fiscal policies designed for developed and developing economics.
9. Facilitate the historical developments in the economic thoughts propounded by different schools. To familiarise students with the contribution of Indian Economic Thinkers and the relevance of their contribution.
10. Learn the basic concept of monetary analysis and financial marketing in Indian financial markets.
11. Learn the development issues of the Indian economy.
12. Acquaint with some basic concepts of environmental economics along with the solution to environmental problems.
13. Learn the real and monetary sides of international economics.



14. Familiarise and acquainted with the characteristics of the economy of Uttar Pradesh.
15. To familiarize the students with issues of ethics in economic thinking and practice.

***B.A. 1<sup>st</sup> semester***

***Course Title: Principle of Micro Economics***

***Program outcomes/course outcomes (POs/COs):***

1. The students are familiarized with basic concepts of microeconomics such as laws of demand and supply and elasticity etc so that he/she can comprehend them & familiarize with day today happenings.
2. The students learn and understand consumer behaviour concepts like cardinal utility and ordinal utility analysis.
3. The students learn and understand application of Indifference curve analysis in deriving demand curves, price effect, income effect and substitution effect.
4. The students learn and understand the Theory of production- iso-quants, laws of returns to scale, law of variable proportion.
5. The students learn, understand and compare between the Traditional and modern theory of cost.
6. Demonstrate an understanding, usage and application of basic economic principles.
7. Describe and apply the methods for analyzing consumer behavior through demand and supply, elasticity and marginal utility.
8. To analyze the behavioral patterns of different economic agents regarding profit, price, cost etc.
9. The decision-making process in different market situations such as perfect competition, monopolistic competition, monopoly and oligopoly markets.
10. To deal with the advance theoretical issues and their practical applications of distribution theories.
11. General equilibrium, economic efficiency and market failure.

***B.A. 3<sup>rd</sup> semester***

***Course Title: History of Economic Thought***

***Program outcomes/course outcomes (POs/COs):***

1. To learn and discuss, at an advanced undergraduate level, how economic thought has evolved over time.
2. Introducing students to the critical comparison of the contributions of the main schools of economics.
3. To introduce & highlight before the students about Indian Economic Thinkers and their valuable contributions to the field of Economics.
4. The classical, the marginalized revolution and its application to the theories of general and partial equilibrium.
5. The current macroeconomic debate between the neo-classical and the Keynesian school.

***B.A. 4<sup>th</sup> semester***

***Course Title: Money, Banking and Public Finance***

***Program outcomes/course outcomes (POs/COs):***

1. Understand simple concepts related to monetary economics and banking theory.
2. Correlate and apply to current events & key models and concepts of monetary economics and banking theory.
3. Appreciate the potential importance of monetary phenomenon in the economy.
4. Understand the sources of finance both public and private
5. Demonstrate the role of government to correct market failures and possible advantages of public financing.
6. Understand the possible burden, benefits, and distribution of various types of taxes among various classes of people, know the general trend and impact on general welfare, and arouse them to suggest good and bad tax systems.

***B.A. 5<sup>th</sup> semester***

***Course Title: Economic Growth and Development***

***Program outcomes/course outcomes (POs/COs):***

1. Students should be able to comprehend the concept and meaning of economic growth and economic development.
2. Students should be able to distinguish between economic growth and economic development.
3. Students should be able to comprehend the issues and challenges in economic growth and development.
4. Students should be able to comprehend and explain the concept of poverty and human development & the related concepts.
5. Students should be familiar with the approaches to development.
6. Students should be able to understand and explain the factors and variables of economic development.
7. Students are able to understand how international factors facilitate and impede economic development.

***B.A. 6<sup>th</sup> semester***

***Course Title: Elementary Statistics-based Project***

***Program outcomes/course outcomes (POs/COs):***

1. Students to be familiar with the concepts in Statistics.
2. The concepts comprehended by the students shall be put to use in practice.
3. The students become familiar with the practical aspects of preparing a questionnaire/interview schedule and putting them to use.
4. The information/data collected by the students should be analyzed with the help of Statistical Tools taught so as to derive inferences.
5. The students shall experience the practical aspect of the theory of statistics being taught in the classroom environment.
6. The students are able to use statistical tools vis-à-vis given real-life situations.
7. Practical work is to be based on the topics covered in the contents given below.

## B.A. (Geography)

### PROGRAMME SPECIFIC OUTCOMES (PSOs)-

#### Program Outcome (After 3 Years of Study)

- a) This course provides the basic ideas and concepts of Physical & Human Aspect of Geography.
- b) This course intends to orient the learner with the Approaches to the broader discipline of Geography.
- c) It will help in developing analytical and critical thinking based on the themes and issues of geography.
- d) It eventually prepares the students to understand the development of the subject and delve around issues suited to the needs of the contemporary world.
- e) It will help in exhaustive understanding of the basic concepts of Geography and an awareness of the emerging areas of the field.
- f) Acquisition of in-depth understanding of the applied aspects of Geography as well as interdisciplinary subjects in everyday life.
- g) Improvement of critical thinking and skills facilitating.
- h) The application of knowledge gained in the field of Geography in the classroom to the practical solving of societal problems.
- i) The programme orients students with traditional geographical knowledge along with advanced contemporary skills like remote sensing and GIS.

#### BA 1<sup>st</sup> Year, Sem. I , Course I (Theory)

Programme/Class: Certificate/ BA	Year: First	Semester: First
Subject: Geography		
Course Code: A110101T	Course Title: <b>Physical Geography</b>	
<p>Course outcomes: Students will be able to understand</p> <ul style="list-style-type: none"> <li>• The Earth geomorphic transition from beginning to present day.</li> <li>• Plate tectonics and related movements</li> <li>• Landforms carved by various agents of erosion</li> <li>• Earth's climate and that factors that influence it</li> <li>• Ocean's system and biogeography of the world.</li> </ul>		

**1<sup>st</sup> Year, Sem. I  
Course II  
(Practical)**

Program/Class: Certificate/BA	Year: First	Semester: First
Subject: Geography		
Course Code: A110102P	Course Title: <b>Elements of Map Reading and Interpretation</b>	
<b>Course Learning Outcomes</b> On completion of this course, learners will be able to: <ul style="list-style-type: none"> <li>• Understand the basic idea of Map, Scale and Topographic sheets</li> </ul>		

**BA 1<sup>st</sup> Year, Sem. II,  
Course I  
(Theory)**

Program/Class: Certificate/BA	Year: First	Semester: Second
Subject: Geography		
Course Code: A110201T	Course Title: <b>Human Geography</b>	
<b>Course Learning Outcomes</b> On completion of this course, learners will be able to: <ul style="list-style-type: none"> <li>• To understand the Concept and Nature, Meaning and Scope of Human Geography</li> <li>• To understand the natural and Cultural Changes in and around the Human Environments and their interrelationship.</li> <li>• <b>To understand the Bhartiya Sanskriti Evam Paryavaran Chetna.</b></li> </ul>		

**BA 1<sup>st</sup> Year, Sem. II  
Course II  
(Practical)**

Program/Class: Certificate/BA	Year: First	Semester: Second
Subject: Geography		
Course Code: A110202P	Course Title: <b>Thematic, Weather and Geological Maps</b>	
<b>Course Learning Outcomes</b> On completion of this course, learners will be able to: <ul style="list-style-type: none"> <li>• Understand the basic idea of Map, Scale and Topographic sheets</li> </ul>		

**BA 2<sup>nd</sup> Year, Sem. III,  
Course I  
(Theory)**

Programme/Class: Diploma/BA	Year: Second	Semester: Third
Subject: Geography		
Course Code: A110301T	Course Title: <b>Environment, Disaster Management and Climate Change</b>	
<p>Course outcomes: Students will be able to understand</p> <ul style="list-style-type: none"> <li>• The course aim is to give basic understanding of concept Environment, Climate Change and Disaster Management.</li> <li>• Understanding of the concept of appraisal and conservation of Environment and Natural Resources.</li> <li>• It will help in developing understanding about various Impacts of Climate Change.</li> <li>• This course shall introduce the basic concepts related to disaster Management.</li> <li>• This paper shall help in understanding Global effort in field of disaster management.</li> </ul>		

**BA 2<sup>nd</sup> Year, Sem. III,  
Course II  
Practical**

Programme/Class: Diploma/BA	Year: Second	Semester: Third
Subject: Geography		
Course Code: A110302P	Course Title: <b>Statistical Techniques</b>	
<p>Course outcomes: Students will be able to understand</p> <ul style="list-style-type: none"> <li>• To differentiate between qualitative and quantitative information.</li> <li>• To understand the nature of various data.</li> <li>• To understand sampling methods for data collection.</li> <li>• To present data through graphical and diagrammatic formats.</li> <li>• To use the concept of probability mainly the normal distribution.</li> </ul>		

**BA 2<sup>nd</sup> Year, Sem. IV,  
Course I  
(Theory)**

Program/Class: Diploma /BA	Year: Second	Semester: Fourth
Subject: Geography		
Course Code: A110401T	Course Title: <b>Economic Geography</b>	
<p>Course Learning Outcomes</p> <p>On completion of this course, learners will be able to:</p> <ul style="list-style-type: none"> <li>• Define <b>Meaning, concepts and approaches of Economic Geography</b></li> <li>• Understand the nature of Economic activities, Resource Distribution</li> <li>• Understand the <b>Effect of globalization on developing countries.</b></li> </ul>		

**BA 2<sup>nd</sup> Year, Sem. IV,  
Course II  
(Practical)**

Program/Class: Diploma /BA	Year: Second	Semester: Fourth
Subject: Geography		
Course Code:A110402P	Course Title: <b>Practical: Surveying</b>	
<p>Course Learning Outcomes</p> <p>On completion of this course, learners will be able to:</p> <ul style="list-style-type: none"> <li>• Identify the various Survey Operations and Survey Instruments</li> <li>• To understand the idea of Basic and applied Instrumental surveying</li> </ul>		

**BA 3<sup>rd</sup> Year, Sem. V,  
Course I  
(Theory)**

Programme/Class: Degree/BA	Year: Third	Semester: Fifth
Subject: Geography		
Course Code:A110501T	Course Title: <b>Regional Geography</b>	
<p>Course outcomes: Students will be able to understand</p> <ul style="list-style-type: none"> <li>• To understand the concept of Region and Regional Planning.</li> <li>• To familiarize the students with Theories and Models for Regional Planning.</li> <li>• To develop understanding about concept of Development, Sustainable Development and Multi level planning.</li> </ul>		

**BA 3<sup>rd</sup> Year, Sem. V,  
Course II  
(Theory)**

Program/Class: Degree /BA	Year: Third	Semester: Fifth
Subject: Geography		
Course Code:A110502T	Course Title: <b>Basics of Remote Sensing and GIS</b>	
<p>Course Learning Outcomes</p> <p>On completion of this course, learners will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the Basic idea and application of Remote sensing Techniques and Geographical Information System</li> </ul>		

**BA 3<sup>rd</sup> Year, Sem. V,  
Course III  
(Practical)**

Programme/Class: Degree/BA	Year: Third	Semester: Fifth
Subject: Geography		
Course Code: A110503R	Course Title: <b>Tour and Tour report</b>	
Course outcomes: Students will be able to understand <ul style="list-style-type: none"> <li>• The variation among geographical locations.</li> <li>• Interaction with people with different natural and cultural settings.</li> <li>• Study physical and human geography of area being visited.</li> <li>• Learn to prepare tour report.</li> </ul>		

**BA 3<sup>rd</sup> Year, Sem. V,  
Course III  
(Practical)**

Programme/Class: Degree/BA	Year: Third	Semester: Fifth
Subject: Geography		
Course Code: A110504R	Course Title: <b>Project Report-1</b>	
Course outcomes: Students will be able to understand <ul style="list-style-type: none"> <li>• In-depth knowledge of research methodology.</li> <li>• Learn to prepare Project Report.</li> </ul>		

**BA 3<sup>rd</sup> Year, Sem. VI,  
Course I  
(Theory)**

Program/Class: Degree /BA	Year: Third	Semester: Sixth
Subject: Geography		
Course Code:A110601T	Course Title: <b>Geography of India</b>	
Course Learning Outcomes <p>On completion of this course, learners will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the importance of “Ek Bharat Shrestha Bharat”</li> <li>• Understand the wider aspects of Geography of India</li> </ul>		

**BA 3<sup>rd</sup> Year, Sem. VI,  
Course II  
(Theory)**

Program/Class: Degree /BA	Year: Third	Semester: Sixth
Subject: Geography		
Course Code:A110602T	Course Title: <b>Evolution of Geographical Thought</b>	
<b>Course Learning Outcomes</b> On completion of this course, learners will be able to: <ul style="list-style-type: none"> <li>● Understand the contribution of Indian and other renowned Geographers</li> <li>● Understand the Concept of evolution of Geographical Thought.</li> </ul>		

**BA 3<sup>rd</sup> Year, Sem. VI,  
Course III  
(Practical)**

Program/Class; Degree/BA	Year: Third	Semester: Sixth
Subject: Geography		
Course Code: A110603P	Course Title: <b>Remote Sensing and GIS</b>	
<b>Course Learning Outcomes</b> On completion of this course, learners will be able to: <ul style="list-style-type: none"> <li>● Understand and Conceptualize Remote Sensing and GIS Technique</li> <li>● Understand the use of various image processing Software</li> <li>● Basic idea of Geographical Information System</li> </ul>		

**BA 3<sup>rd</sup> Year, Sem. VI,  
Course III  
(Practical)**

Program/Class: Degree/BA	Year: Third	Semester: Sixth
Subject: Geography		
Course Code: A110604R	Course Title: <b>Project Report-2</b>	
<b>Course outcomes:</b> Students will be able to understand <ul style="list-style-type: none"> <li>● In-depth knowledge and application of RS and GIS technology in research.</li> <li>● Learn to prepare Project Report.</li> </ul>		



## Department of Political Science

### Undergraduate Course in Political Science

#### Program Outcome:

1. The vast and detailed study of the subject enriches the students with various political facts, ideologies, theories and concepts which have been guiding human life since ancient days till today.
2. It develops the understanding of Indian Political System and political process by comparing major constitutions of the world such as U.S.A., U.K., Russia, Switzerland etc.
3. The program enables students to think and enquire critically about the national and international problems of peace and order.

#### Course Outcome

##### Semester I

##### *Name of the paper- Indian National Movement & Constitution of India*

1. The course is divided in two parts –  
PartI (Theory) Indian National Movement and Constitution of India- This part attempts to acquaint you with certain aspects of the Constitutional government and democracy in India.  
PartII (Practical) – Awareness of Rights and Laws- This part intends to arm the student with the knowledge of basic legal rights so that he can participate in his democratic system of society and government.
1. The course provides an overall understanding of relationships between government and the governed.
2. The course also develops understanding of social, cultural and linguistic pluralism of India.

#### Course Outcome (N.E.P. 2020)

##### Semester II

##### *Name of the paper- Political Theory & Concepts*

1. The paper covers almost all the basic theoretical foundations of Political Science.
2. The course is designed to train a student in the fundamental issues of political and social life, such as concepts of Sovereignty, State, Liberty, Equality, Justice etc.

3. Apart from discussing theories in detail, the course overall critically analyses them so as to develop critical thinking.

***Course Outcome (N.E.P. 2020)***

### ***Semester III***

#### ***Name of the paper- Political Process in India (Theory)***

1. This course seeks to introduce students to important political processes in the working of Indian constitution since its inception.
1. 2.The syllabus is divided in 8 units covering basic features of Indian democracy along with the procedural aspects.
2. 3.Students will learn the working of 3-tier institutions of their political system such as Union, State and Local self-governments.
3. The course initiates learners into the socio-cultural issues shaping Indian political system, i.e., ethnicity, language, caste, majority and minority communalism etc.

#### ***Name of the paper- Field Work Tradition in Social Sciences (Practical)***

1. The objective of this practical paper is to equip students with empirical research methods which would help them in advance studies.
2. A compulsory case-study of any socio-political relevant issue is an important part of this practical paper in the subject.

***Course Outcome (N.E.P. 2020)***

### ***Semester IV***

#### ***Name of the paper- Western Political Thought***

1. Background of development of political thought helps students to understand the key political ideologies, i.e., Idealism, Individualism, Socialism etc.
2. To focus on the understanding the 'state' in its historical context – Ancient, Medieval and Modern periods.
3. To cover the chronological study of Political Philosophers whose ideas have influenced the people and governments of the world.

***Course Outcome (N.E.P. 2020)***

## ***Semester V***

### ***Name of the paper- Comparative Government and Politics (UK, USA, Switzerland & China)***

1. Comparison is widely accepted method in scientific knowledge. So while comparing the governments it is easy to find out why a particular form of government is appropriate and suitable to a given society.
2. The study specifically focuses on the study of some important political and constitutional institutions of the world.
3. The first 4 units of the course cover the theoretical understanding of the study of comparative politics whereas the last 4 units cover the factual study of the governments of United Kingdom, United States of America, Switzerland and China.

### ***Course Outcome (N.E.P. 2020)***

## ***Semester V***

### ***Course Title- Principles of Public Administration***

1. To study the basic principles of administration such as organisational theories, bureaucracy, leadership etc. along with the study of new dimensions of modern administrative theories.
2. To study the structure and functioning of administrative organs of the governments in general.
3. To develop the understanding of Indian administration with emphasis on evolution of administration in India.

### ***Course Outcome (N.E.P. 2020)***

## ***Semester V Practical***

### ***Course Title- Public Policy Formulation & Administration in India***

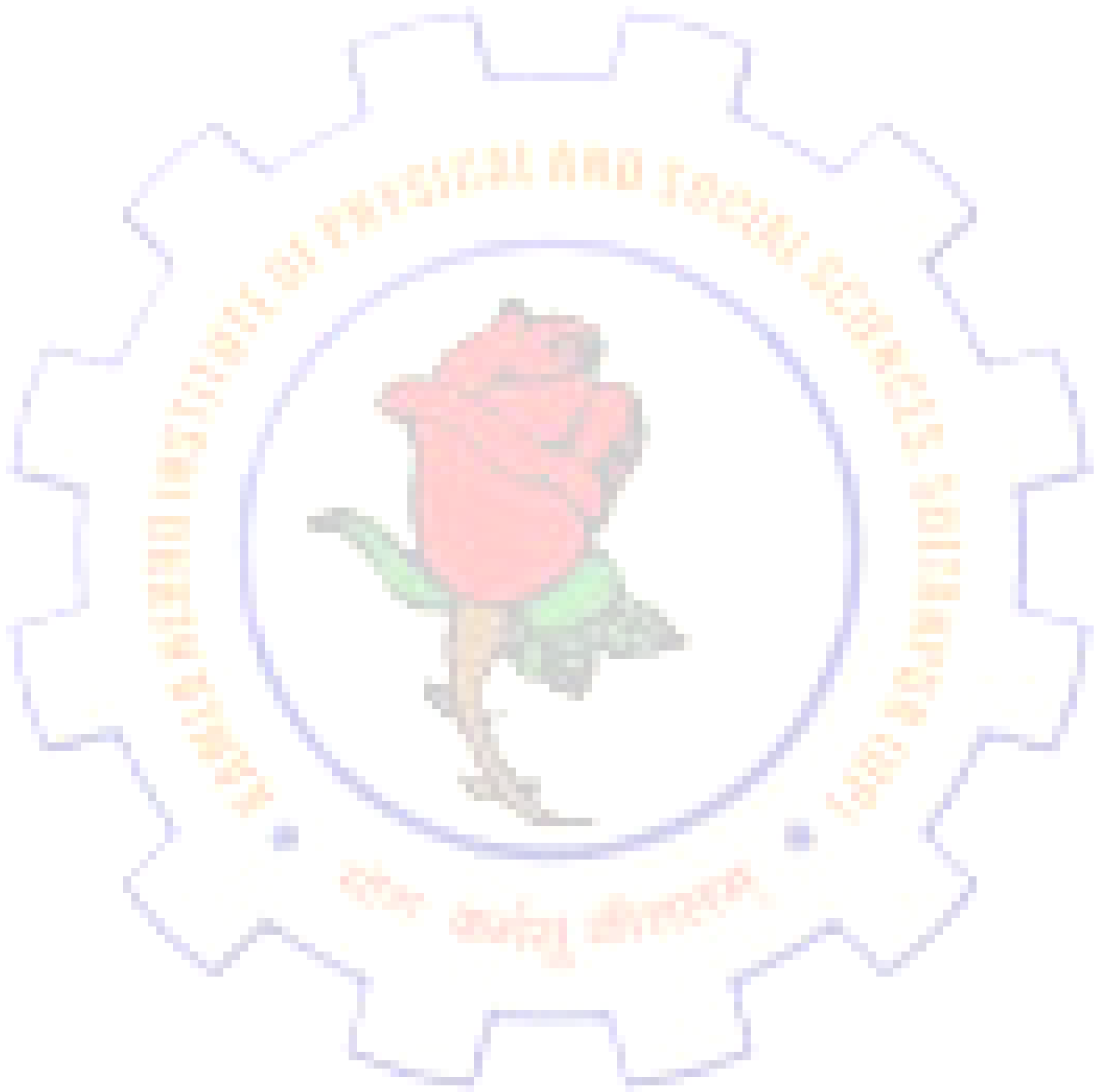
This syllabus is focused to promote the students in learning actual policy formulation procedure in India. The study has to be practically examined by the various determinants of society which are followed in decision making.

### ***Course Outcome (N.E.P. 2020)***

## ***Semester VI***

### ***Course Title- Indian Political Thought***

1. To familiarise the students with the political and social thinking of ancient, medieval and modern India.
2. To enable students to understand the ideas and thoughts which have shaped Indian political system and still playing an important role in determining the nature of Indian polity.



## Department of Sanskrit

### Programme outcomes (POs)

1. विद्यार्थियों को लेखन, वाचन एवं अध्ययन की दृष्टि से भाषागत दक्षता प्राप्त होगी।
2. सहज एवं स्वाभाविक रूप से भाषागत पारंगता प्राप्त कर उनमें प्रभावशाली अभिव्यक्ति कीक्षमता उत्पन्न होगी। |
3. आत्मविश्वास से युक्त एवं नेतृत्व क्षमता के धारक होंगे।
4. नैतिक एवं चारित्रिक दृष्टि से मूल्यवान व्यक्तिवधारी होकर भारतीयता के बोध के साथ वैश्विकनागरिक के रूप में भावी चुनौतियों का सामना करने में सक्षम होंगे।

### Programme Specific Outcomes (PSOs)

- a. सर्वाधिक वैज्ञानिक भाषा के रूप में संस्कृत भाषा के प्राचीन महत्व एवं उसकी वर्तमान प्रासंगिकता को जानने-समझने योग्य होंगे।
- b. संस्कृत साहित्य की विभिन्न विधाओं (गद्य, पद्य, नाटक, व्याकरण इत्यादि) से सुपरिचित होकर संस्कृत मर्मज्ञ बन सकेंगे।
- c. संस्कृत व्याकरण के विभिन्न अंगों के ज्ञान द्वारा भाषा के शुद्ध अध्ययन, लेखन एवं उच्चारणमाध्यम से अभिव्यक्ति कौशल का विकास होगा।
2. आयुर्वेद, वास्तुशास्त्र, ज्योतिष, नित्यनैमित्तिक कर्मकांड इत्यादि के माध्यम से जीविकोपार्जन के योग्य बनेंगे।
  - a. वैदिक एवं लौकिक संस्कृत साहित्य की समृद्धता एवं तद्विहित नैतिकता व आध्यात्मिकता को अनुभूत कर भारतीय संस्कृति के महत्व को वैश्विक स्तर तक पहुंचाने में सक्षम होंगे।
  - b. धर्म-दर्शन, आचार-व्यवहार, नीति शास्त्र एवं भारतीय संस्कृति के मूल तत्वों को जानकर उत्तम चरित्रवान मानव एवं कुशल नागरिक बनेंगे।
  - c. समसामयिक समस्याओं के समाधान के रूप में संस्कृत साहित्य में निबद्ध सर्वांगीणता के प्रति शोधपरक दृष्टि का विकास होगा।

### वर्ष- प्रथम (सेमेस्टर प्रथम)

### प्रश्न पत्र कोड - 40201017

### प्रश्न पत्र शीर्षक- संस्कृत पद्य साहित्य एवं व्याकरण

### अधिगम उपलब्धि-

1. विद्यार्थी संस्कृत साहित्य का सामान्य परिचय प्राप्त कर काव्य के विभिन्न भेदों से परिचित हो सकेंगे।
2. वह संस्कृत पद्य साहित्य की सुगीतात्मकता का सौंदर्यबोध कर सकेंगे।
3. उनमें काव्य में प्रयुक्त रस, छंद अलंकारों को समझने की क्षमता विकसित होगी।
4. पद्य में निहित सूक्तियों एवं सुभाषित वाक्यों के माध्यम से उनके नैतिक एवं चारित्रिक उन्नयन होगा।
5. विद्यार्थियों के शब्दकोश में वृद्धि होने के साथ-साथ वह संस्कृत श्लोकों के शुद्ध और सस्वर उच्चारण के कौशल में निपुण बनेंगे।
6. संस्कृत व्याकरण का सामान्य ज्ञान प्राप्त कर उसकी वैज्ञानिकता से सुपरिचित हो सकेंगे।
7. संस्कृत वर्णों के शुद्ध उच्चारण कौशल का विकास होगा।
8. स्वर एवं व्यंजन के मूल भेद को समझ कर पृथक अर्थावगमन की क्षमता उत्पन्न होगी।

9. स्वर, व्यंजन एवं विसर्ग संधि का विशिष्ट ज्ञान एवं उनके अनुप्रयोग का कौशलविकसितहोगा।

### **वर्ष- प्रथम (सेमेस्टर द्वितीय)**

**प्रश्न पत्र कोड- A0202017**

**प्रश्न पत्र शीर्षक संस्कृत गद्य साहित्य, अनुवाद एवं संगणक अनुप्रयोग**

**अधिगम उपलब्धि-**

1. विद्यार्थी संस्कृत गद्य साहित्य का सामान्य ज्ञान प्राप्त कर, गद्य काव्य के भेदों सुपरिचित होसकेंगे।
2. संबंधित साहित्य के माध्यम से उनका नैतिक एवं चारित्रिक उत्कर्ष होगा | राष्ट्रभक्ति की भावना प्रबल होगी तथा उत्तम नागरिक बनेंगे।
3. अनुवाद कौशल में वृद्धि होगी। संस्कृत गद्य के धाराप्रवाह एवं शुद्ध वाचन का कौशल विकसित होगा ।
4. विद्यार्थी संगणक का सामान्य ज्ञान प्राप्त कर, अधिगम क्षमता में वृद्धि हेतु इसका उपयोग करसकने में सक्षम होंगे ।
5. E-content एवं डिजिटल लाइब्रेरी का उपभोग कर पाने में समर्थ होंगे । संस्कृत भाषा और साहित्य के नित नूतन अन्वेषण को खोज पाने तथा उससे स्व-ज्ञान कोष मेंवृद्धि कर पाने योग्य होंगे।
6. संगणक के प्रयोग के माध्यम से संस्कृत ज्ञान के प्रचार प्रसार एवं आदान-प्रदान करने में कुशलबनेंगे।
7. पारंपरिक एवं वैश्विक ज्ञान में सामंजस्य बनाकर ज्ञान की अभिवृद्धि करने एवं जीविकोपार्जन केनए मार्ग खोजने का कौशल विकसित होगा।

### **वर्ष- द्वितीय (सेमेस्टर तृतीय)**

**प्रश्न पत्र शीर्षक- संस्कृत नाटक एवं व्याकरण**

**प्रश्न पत्र कोड - 40203017**

**अधिगम उपलब्धि-**

1. संस्कृत नाट्य साहित्य को सामान्य रूप से समझ सकने में सक्षम होंगे।
2. नाटक की पारिभाषिक शब्दावली से सुपरिचित होंगे।
3. नाटक में प्रयुक्त रस, छंद एवं अलंकारों का सम्यक बोध कर सकेंगे ।
4. संवाद एवं अभिनय कौशल में पारंगत होंगे । नवीन पदों के ज्ञान द्वारा उनके शब्दकोश में वृद्धि होगी।
5. भारतीय सांस्कृतिक तत्त्वों एवं मूल्यों को आत्मसात कर, भारतीयता के गर्व बोध से युक्त उत्तमनागरिक बनेंगे।
6. व्याकरण परक शब्दों की सिद्धि प्रक्रिया से परिचित हो सकेंगे।
7. व्याकरण शास्त्र के ज्ञान के माध्यम से शुद्ध वाक्य विन्यास कौशल का विकास हो सकेगा।

### **वर्ष- द्वितीय (सेमेस्टर चतुर्थ)**

**प्रश्न पत्र कोड- A020401T**

**प्रश्न पत्र शीर्षक- काव्यशास्त्र एवं संस्कृत लेखन कौशल**

**अधिगम उपलब्धि-**

1. विद्यार्थी काव्यशास्त्र के उद्भव और विकास से सुपरिचित होकर काव्य शास्त्रीय तत्त्वों को समझने में सक्षम होंगे। छंद भेद एवं उनके नियमों को समझने में समर्थ होंगे।
2. संस्कृत अलंकारों के ज्ञान के माध्यम से काव्य के सौंदर्य का बोध कर सकेंगे। कल्पनाशीलता एवं रचनात्मक क्षमता का विकास होगा शब्द ज्ञानकोष में वृद्धि होगी।
3. व्याकरण शास्त्र के ज्ञान के माध्यम से शुद्ध वाक्य विन्यास कौशल का विकास हो सकेगा।
4. विद्यार्थियों में निबंध एवं अनुच्छेद लेखन क्षमता का विकास होगा।
5. संस्कृत पत्र लेखन कौशल में वृद्धि होगी।
6. अपठित अंश के माध्यम से विषय वस्तु अवबोध एवं अभिव्यक्ति का कौशल विकसित होगा।

### **वर्ष- तृतीय (सेमेस्टर पंचम)**

**प्रपत्र कोड-A020501T**

**प्रश्न पत्र शीर्षक- प्रथम पत्र- वैदिक वांग्मय एवं भारतीय दर्शन**

#### **अधिगम उपलब्धि-**

1. वैदिक वाङ्मय एवं संस्कृति का ज्ञान प्राप्त कर सकेंगे।
2. वैदिक एवं औपनिषदिक संस्कृति के प्रति गौरव बोध होगा।
3. वेदोक्त संदेशों एवं मूल्यों के माध्यम से आचरण का उदात्तीकरण होगा।
4. उपनिषद् का सामान्य परिचय एवं निहित उपदेशों का अवबोध होगा।
5. औपनिषदिक कर्म संयम भक्ति एवं त्यागमूलक संस्कृति से परिचित होंगे।
6. वैदिक एवं औपनिषदिक संस्कृति के प्रति गौरव बोध होगा वैदिक सूक्तों के माध्यम से विद्यार्थियोंको तत्कालीन आध्यात्मिक सामाजिक एवं राष्ट्रीय परिदृश्य का निदर्शन होगा।
7. भारतीय दार्शनिक तत्त्वों का सामान्य ज्ञान प्राप्त होगा।
8. दार्शनिक तत्त्वों में अनुस्यूत गूढार्थ बोध होगा। दार्शनिक तत्त्वों के प्रति विश्लेषणात्मक एवं तार्किक क्षमता का विकास होगा।
9. दर्शन में विद्यमान नैतिक एवं कल्याणपरक तथ्यों से आत्मोत्कर्ष की अभिप्रेरणा प्राप्त होगी।
10. भारतीय दर्शन में निहित उद्देश्यों एवं ज्ञान को आचरण में समाहित करने हेतु अभिप्रेरित होंगे।
11. गीता ज्ञान रहस्य द्वारा सृष्टि कल्याणार्थ भाव विकसित होंगे।

### **वर्ष- तृतीय (सेमेस्टर पंचम)**

**पत्र कोड-40205027**

**प्रश्न पत्र शीर्षक- द्वितीय प्रश्न पत्र- व्याकरण एवं भाषा विज्ञान**

#### **अधिगम उपलब्धि-**

1. भाषा विज्ञान के उद्भव एवं विकास का सामान्य ज्ञान प्राप्त होगा।
2. संस्कृत भाषा एवं व्याकरण की वैज्ञानिकता का अवबोध होगा।
3. भाषा एवं भाषा विज्ञान की उपयोगिता एवं महत्व से सुपरिचित होंगे।
4. ध्वनि के प्रारंभिक एवं वर्तमान स्वरूप एवं ध्वनि परिवर्तन के कारणों के प्रति विश्लेषणात्मक दृष्टि विकसित होगी।

5. पदों की सिद्धि प्रक्रिया के माध्यम से शब्द निर्माण की वैज्ञानिकता से परिचित होंगे।
6. संस्कृत भाषा के शुद्ध उच्चारण एवं लेखन का कौशल विकसित होगा।

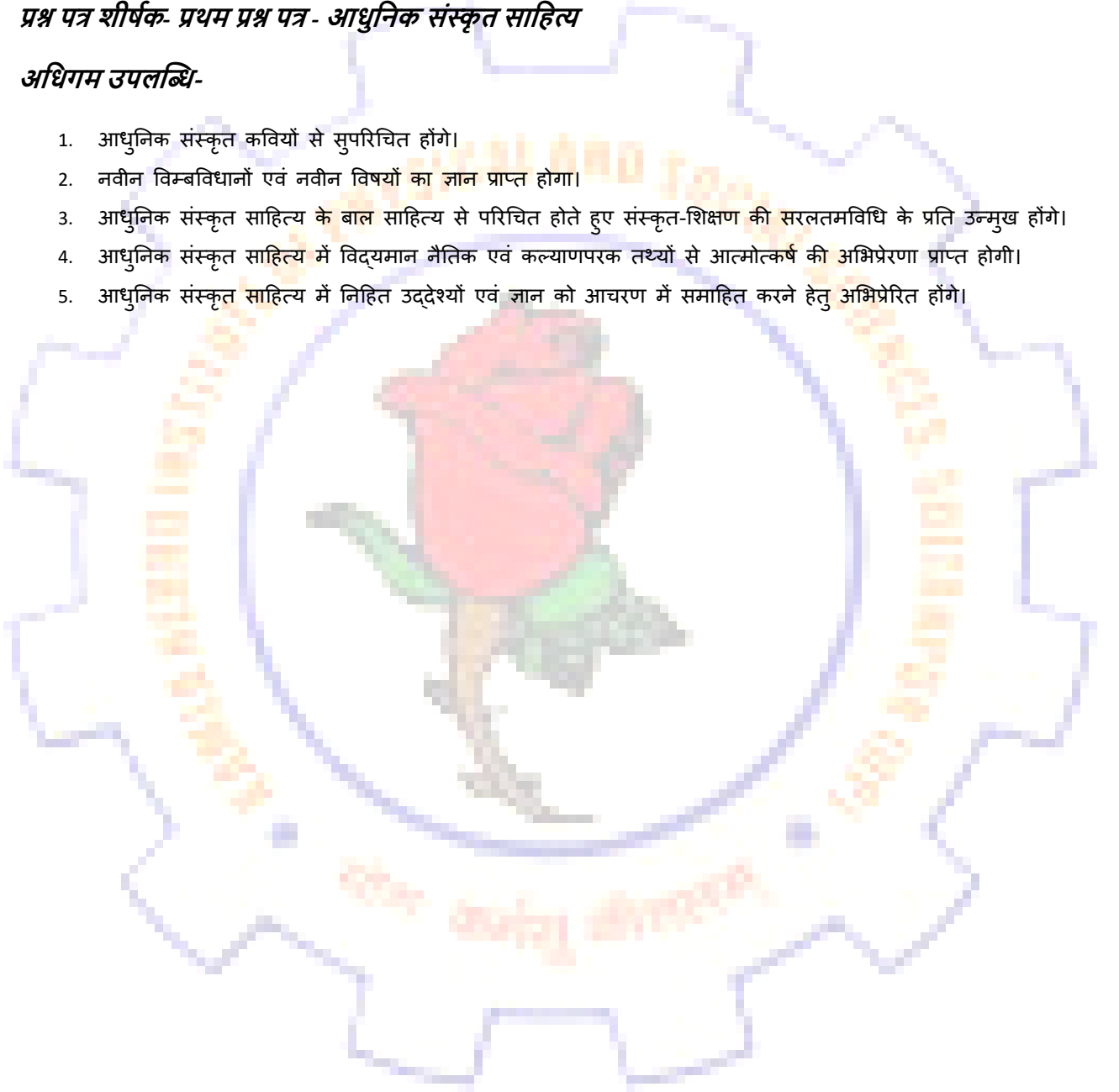
**वर्ष- तृतीय (सेमेस्टर षष्ठ)**

**प्रश्न पत्र कोड-A020601T**

**प्रश्न पत्र शीर्षक- प्रथम प्रश्न पत्र - आधुनिक संस्कृत साहित्य**

**अधिगम उपलब्धि-**

1. आधुनिक संस्कृत कवियों से सुपरिचित होंगे।
2. नवीन विम्बविधानों एवं नवीन विषयों का ज्ञान प्राप्त होगा।
3. आधुनिक संस्कृत साहित्य के बाल साहित्य से परिचित होते हुए संस्कृत-शिक्षण की सरलतमविधि के प्रति उन्मुख होंगे।
4. आधुनिक संस्कृत साहित्य में विद्यमान नैतिक एवं कल्याणपरक तथ्यों से आत्मोत्कर्ष की अभिप्रेरणा प्राप्त होगी।
5. आधुनिक संस्कृत साहित्य में निहित उद्देश्यों एवं ज्ञान को आचरण में समाहित करने हेतु अभिप्रेरित होंगे।





## Department of Sociology

### PROGRAMME SPECIFIC OUT COMES (PSOs)-

#### Program Outcome (After 3 Years of Study)

1. This course will introduce students to new concepts of Sociology discipline.
2. These concepts will enhance the conceptual learning and understanding of the basic concepts used in Sociology.
3. This course will contribute in enriching the vocabulary and scientific temperament of the students.
4. The course is designed to incorporate all the key concepts of sociology which would enable the learner to develop keen insights to distinguish between the common-sense knowledge and Sociological knowledge.
5. This course provides comprehensive understanding of Indian society.

#### *B.A. Ist Year, Sem, I,*

#### *(Introduction to Basis Concepts of Sociology)*

*Course Code: A070101T*

#### *Course Outcomes:*

1. This paper will introduce students to new concepts of sociology discipline. This concept will enhance conceptual learning and understanding of basic concepts used in sociology.
2. This paper will contribute in enriching the vocabulary and scientific temperament of the students.
3. The course is designed to incorporate all the key concept of sociology which would enable the learner to develop keen in side to distinguish between the commonsense knowledge and sociological knowledge.

#### *B.A. Ist Year, Sem., II*

#### *(Society in India : Structure, Organization & Change.)*

*Course Code: A070201T*

#### *Course Outcomes:*

1. This paper is designed in this manner, so that students are introduced to the concepts related to India Society.
2. They are made familiar with the India Society, its linkages and continuity with past and present.
3. It also gives insights to analyse contemporary India society.
4. This paper provides comprehensive understanding of India society.

#### *B.A. IInd Year, Sem., III*

***(Social Change and Social Movement in India)***

***Course Code: A070301T***

***Course Outcomes:***

1. This paper is designed in a manner, so that students are introduced to the concepts related to social change and Social Movement.
2. This course will introduce students to the dynamic aspect and dissension tendencies of society.
3. The course intends to focus upon the deviant and delinquent behaviour, issue of corruption and other disorganization and structural problems of India Society.
4. The critical evaluation would enable students to come out with better suggestions, contributing in cohesion of society.

***B.A. IIInd Year, Sem., IV***

***(Social Problems & Issues of Development in India)***

***Course Code: A070401T***

***Course Outcomes:***

1. The syllabus is designed to introduce students to the emerging social problems, the concept and issues of development in India Society.
2. The course intends to focus upon the deviant and delinquent behaviour, issue of corruption and other disorganization and structural problems of India Society.
3. The endeavour of the course is to make learners aware about the social problems and developmental issues in the India Society.

***B.A. IIIrd Year, Sem., V***

***(Classical Sociology Thought)***

***Course Code: A070501T***

***Course Outcomes:***

1. The course syllabus is designed to help students to know about the classical contributions of Pioneers of Sociology.
2. The paper will focus upon the history of Sociology and the intellectual traditions originated during the crisis in Europe and the impact it had on the structures of society.
3. The learner will gain theoretical as well as methodological knowledge about the subject.

***B.A. IIIrd Year, Sem., V***

***Course II (Theory)***

***(Research Methodology in Social Sciences)***

**Course Code: A070502T**

**Course Outcomes:**

1. The course of Research Methodology in Social/ Sociology is structured in a way that it makes student to understand and comprehend the research problems, research techniques and nevertheless course intends to develop objective as well as subjective enquiry into the areas of Sociological studies.
2. The main purpose of the course is to develop scientific and humanistic approach towards the research work in the subject.

**B.A. IIIrd Year, Sem., V**

**Course III (Practical)**

**(Practical Application of Research Methodology/ Project work)**

**Course Code: A070503P**

**Course Outcomes:**

Research Methodologies comprise important part in the course structure of Sociology, hence the course is designed in such a way that student will learn the basic and useful techniques of research which will be beneficial in exploring the research question and formulation of Research Design. The student will learn how to construct schedules, questionnaire and applicability of other research methods.

**B.A. IIIrd Year, Sem., VI**

**Course I (Theory)**

**(Pioneers of Indian Sociology)**

**Course Code: A070601T**

**Course Outcomes:**

The course outline has been delineated in a manner that the student of Sociology is able to gather knowledge about the esteemed Indian Pioneers of Sociology, who largely used indigenous methodology to understand the India society and its complexities. The learner will be able to grasp information and knowledge about the approaches and theoretical framework adopted by the Indian Sociologists and simultaneously they will know about the History of Sociology in India and Sociological traditions.

**B.A. IIIrd Year, Sem., VI**

**Course II (Theory)**

**(Gender and Society)**

**Course Code: A070602T**

**Course Outcomes:**

This course is gender sensitive and is directed towards engaging students to learn and rethink about the gender issues. The course will introduce students to the core gender issue and will equip them to come with suggestions which would be directed towards gender equity.

***B.A. IIIrd Year, Sem., VI***

***Course III***

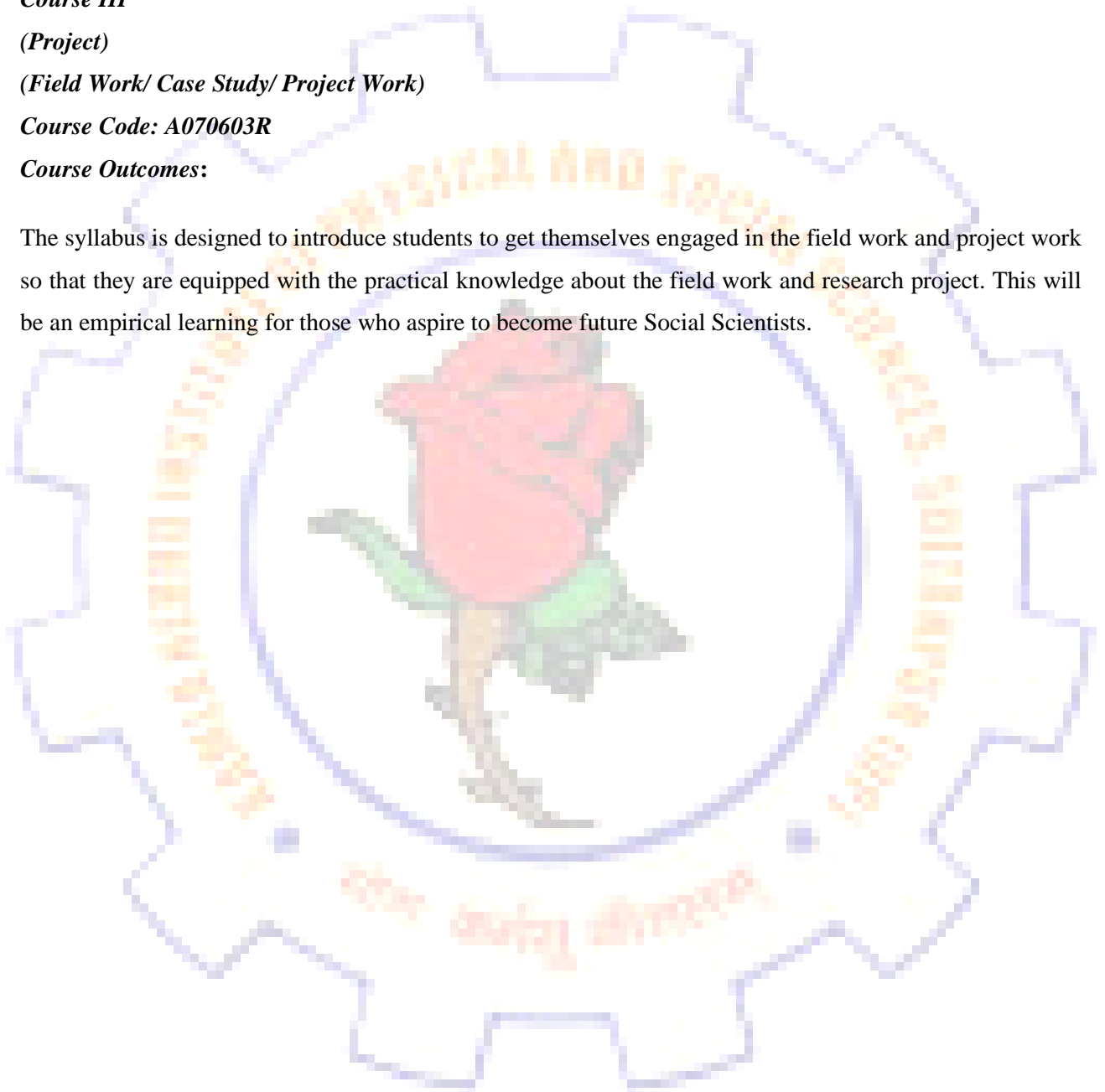
***(Project)***

***(Field Work/ Case Study/ Project Work)***

***Course Code: A070603R***

***Course Outcomes:***

The syllabus is designed to introduce students to get themselves engaged in the field work and project work so that they are equipped with the practical knowledge about the field work and research project. This will be an empirical learning for those who aspire to become future Social Scientists.



## Department of Hindi

### Programme Specific Outcomes

1. बी0ए0 प्रथम वर्ष, प्रथम सेमेस्टर के 'हिंदी काव्य' प्रश्नपत्र के अन्तर्गत भारतीय ज्ञान परम्परा में हिंदी साहित्य के विभिन्न कालों के प्रतिनिधि कवियों की कविताओं की जानकारी देना तथा हिंदी काव्य के इतिहास की संक्षिप्त जानकारी देकर विद्यार्थियों को हिंदी कविता के इतिहास व विकास क्रम से अवगत कराना है।
2. बी0ए0 प्रथम वर्ष, द्वितीय सेमेस्टर के 'कार्यालयी हिंदी और कम्प्यूटर' प्रश्नपत्र के अन्तर्गत हिंदी के विद्यार्थियों को कार्यालयी हिंदी के कार्यों की मूलभूत जानकारी प्रदान करना है। ताकि विद्यार्थी कार्यालयी हिंदी के विभिन्न अनुप्रयोग, सम्बद्ध समस्त कार्यों को बेहतर ढंग से कर सकें। इसके अतिरिक्त कम्प्यूटर के मूलभूत ज्ञान के द्वारा विद्यार्थियों को न केवल रोजगार प्राप्त होगा। अपितु कम्प्यूटर पर हिंदी भाषा में कार्य करना भी सरल होगा।
3. बी0ए0 द्वितीय वर्ष, तृतीय सेमेस्टर के 'हिंदी गद्य' प्रश्न पत्र के अन्तर्गत विद्यार्थियों को हिंदी गद्य की सभी विधाओं का सम्यक् ज्ञान देना तथा उन्हें हिंदी के प्रतिनिधि उपन्यासकारों, कथाकारों, नाटकारों, एकांकीकारों, निबन्धकारों एवं गद्य विधाओं के लेखकों के महत्वपूर्ण प्रदेय से परिचित कराना, ताकि विद्यार्थी इन सभी विधाओं से परिचित हो सकें। साथ ही भविष्य निर्माण में सहायता प्राप्त हो सकें।
4. बी0ए0 द्वितीय वर्ष, चतुर्थ सेमेस्टर के 'हिंदी अनुवाद' प्रश्न पत्र के अन्तर्गत विद्यार्थियों को हिंदी अनुवाद की मौलिक जानकारी प्रदान करना। हिंदी के साथ-साथ अंग्रेजी भाषा की बुनियादी जानकारी देना। ताकि छात्रों को हिंदी भाषा से अंग्रेजी भाषा में अनुवाद करते समय जटिलता का सामना न करना पड़े। आज के प्रतिस्पर्धात्मक वातावरण में स्वयं को वे स्थापित कर सकें। एक सफल अनुवादक के रूप में अपना कैरियर बना सकें।
5. बी0ए0 तृतीय वर्ष, पंचम सेमेस्टर के प्रथम प्रश्नपत्र 'साहित्यशास्त्र और हिंदी आलोचना' के अन्तर्गत विद्यार्थियों को आलोचना के अर्थ, प्रकार एवं महत्व से परिचित कराने के साथ-साथ हिन्दी आलोचना के उद्भव एवं विकास तथा प्रमुख आलोचकों की आलोचना पद्धति से अवगत कराना है। साथ ही हिंदी आलोचना के रूप में भारतीय एवं पाश्चात्य काव्यशास्त्र की भी जानकारी प्रदान करना है।
6. बी0ए0 तृतीय वर्ष, पंचम सेमेस्टर के द्वितीय प्रश्नपत्र 'हिंदी का राष्ट्रीय काव्य' के अन्तर्गत हिंदी साहित्य एवं राष्ट्रीय काव्य चेतना से जुड़े कवियों की रचनाओं के माध्यम से विद्यार्थियों में राष्ट्र के प्रति एवं हिंदी के प्रति गौरवबोध एवं आदर का भाव उद्घाटित करना है। साथ ही भारतीय संस्कृति एवं उसके मूल्य तथा परम्पराओं से छात्रों को अवगत भी कराना है।
7. बी0ए0 तृतीय वर्ष, षष्ठ सेमेस्टर के प्रथम प्रश्नपत्र 'भाषा विज्ञान, हिंदी भाषा तथा देवनागरी लिपि' के अन्तर्गत विद्यार्थियों को भाषा के अंगों, हिंदी भाषा के उद्भव तथा विकास और देवनागरी लिपि की विशिष्टता, वैज्ञानिकता एवं हिंदी की संवैधानिक स्थिति के ज्ञान से समृद्ध करना है।
8. बी0ए0 तृतीय वर्ष, षष्ठ सेमेस्टर के द्वितीय प्रश्नपत्र 'लोक साहित्य एवं लोक संस्कृति' के अन्तर्गत छात्रों को भारत की लोक संस्कृति, परम्परा, लोक तत्व एवं लोक साहित्य की समृद्ध परम्पराओं से अवगत कराना है। जिससे छात्र लोक साहित्य में निबद्ध लोक संस्कृति के व्यापक मूल्यों से समृद्ध हो सकें।

बी0ए0-01, सेमेस्टर-01

'हिंदी काव्य'

कोर्स कोड A010101T

पाठ्यक्रम उद्देश्य (Course Outcomes)

- छात्रों को काव्य के स्वरूप, संवेदना, सौन्दर्य पक्ष के साथ-साथ शिल्पगत विशिष्टताओं से अवगत कराना।। जिससे छात्रों में कविता के प्रति गहरी समझ विकसित हो सके। साथ-साथ वे कविता की मूल संवेदना का रसास्वादन कर सकें। कविता के विचार तत्त्व एवं भाव तत्त्व को सहजता से ग्रहण कर सकें।
- मध्यकालीन हिंदी काव्य की वैचारिक पृष्ठभूमि, तद्युगीन सामाजिक, आर्थिक, राजनीतिक एवं सांस्कृतिक परिवेश की परिस्थितियों, चुनौतियों एवं जीवन संघर्षों से अवगत कराना। जिससे छात्र देश के इतिहास, संस्कृति, दर्शन एवं जीवन मूल्यों को बेहतर ढंग से समझ सकें। साथ ही मध्ययुगीन परिस्थितियों के सापेक्ष लिखी जा रही कविताओं का विश्लेषण युगीन सन्दर्भों में वे कर सकें।
- 'साहित्य के इतिहास' के काल विभाजन एवं नामकरण से अवगत कराना। जिससे वे साहित्य के इतिहास के मूल ढाँचे को बेहतर ढंग से समझ सकें। साहित्य के इतिहास को पढ़कर वे साहित्यिक रचनाओं का अध्ययन व मूल्यांकन ऐतिहासिक परिप्रेक्ष्य में कर सकेंगे।
- भक्तिकालीन महत्त्वपूर्ण कवियों की रचनाधर्मिता व उनके सामाजिक, आर्थिक, राजनीतिक एवं सांस्कृतिक चिन्तन के बहुआयामी पक्ष से छात्रों को अवगत कराना। जिससे छात्रों के भीतर सामाजिकता एवं सरोकार की नवीन दृष्टि का विकास हो सके।
- हिंदी साहित्य के रचनात्मक लेखन द्वारा छात्रों को जनवादी, प्रगतिशील एवं सामाजिक बनने की प्रक्रिया से अवगत कराया गया।
- आधुनिककालीन साहित्य की पृष्ठभूमि, भारतीय-यूरोपीय सम्बन्ध, ब्रिटिश उपनिवेशवादी सत्ता की स्थापना, भारतीय नवजागरण एवं भारतीय सामाजिक संरचना में वैचारिक बदलाव की प्रक्रिया तथा आधुनिक एवं वैज्ञानिक चिन्तन, आधुनिककालीन सामाजिक, आर्थिक, राजनीतिक एवं सांस्कृतिक पृष्ठभूमि से छात्रों को अवगत कराया गया। जिससे छात्रों को आधुनिक भारत के इतिहास का बोध होता है। वर्तमान भारत को समझने में सहायता प्राप्त होती है।
- आधुनिक युग की वैचारिकी के अनुरूप सृजित रचनाओं के वैशिष्ट्य से छात्रों को परिचित कराना।
- आधुनिक कवियों की रचनाओं में निहित साहित्य के दोनों पक्षों सौन्दर्य एवं संघर्ष पक्ष से छात्रों को परिचित कराना। जिससे छात्रों में जीवनबोध विकसित हो सके।
- षोध का अर्थ, आवश्यकता, महत्त्व, शोध प्रक्रिया के विविध चरण एवं विभिन्न शोध प्रविधियों से छात्रों को अवगत कराना। जिससे छात्रों में शोध के प्रति जिज्ञासा व रुचि उत्पन्न हो सके।
- समग्रतः 'हिंदी काव्य' का प्रश्न पत्र छात्रों को लोकतांत्रिक, संवेदनशील, प्रबुद्ध, तार्किक, वैज्ञानिक दृष्टिकोण से युक्त समृद्ध बनाता है। समाज को बेहतर समाज बनाने की मुहिम में अपना योगदान देता है। शोधपरक दृष्टि विकसित करता है। भविष्य के भारत की एक मजबूत आधारशिला रखता है।
- हिंदी काव्य के प्रतिनिधि कवियों की कविताओं के विषय में छात्रों को जानकारी प्रदान करना।
- हिंदी काव्य का संक्षिप्त इतिहास की जानकारी प्रदान करना। जिससे छात्र कविता के इतिहास व उसकी समृद्ध परम्परा से अवगत हो सकें।

बी0ए0-01, सेमेस्टर-02

'कार्यालयी हिंदी और कम्प्यूटर'

कोर्स कोड-A010201T

कोर्स उद्देश्य (Course Outcomes)

- छात्रों को 'कार्यालयी हिंदी' के ज्ञान के द्वारा समझाना कि कैसे प्रशासनिक क्षेत्र की जटिलताओं को दूर किया जा सकता है ? इससे भली भाँति उन्हें अवगत कराया जाना ।
- कार्यालयी हिंदी के ज्ञान के द्वारा सरकारी एवं निजी क्षेत्र में रोजगार के अवसर की उपलब्धता का ज्ञान कराना ।
- हिंदी भाषा में उपलब्ध विविध प्रकार के सॉफ्टवेयर के ज्ञान से समृद्ध किया गया । जिससे वे हिंदी भाषा को लोकप्रिय व जन सरोकार से जोड़ सकें ।
- कम्प्यूटर के बुनियादी एवं समुचित ज्ञान के द्वारा भाषाई समृद्धि के विकास के महत्वपूर्ण पक्षों से अवगत कराना ।
- कम्प्यूटर और कार्यालयी हिंदी के समन्वित ज्ञान के द्वारा रोजगार की चुनौतियों को कम करने का मार्ग बताना ।
- कार्यालयी हिंदी के ज्ञान के द्वारा भाषाई पुद्धता व उसके पुद्ध अनुप्रयोग की जानकारी प्रदान करना ।
- साषल मीडिया पर हिंदी लेखन की कला को विकसित करने की बारीकियों को छात्रों से साझा किया जाना । जिससे छात्रों में रचनात्मक लेखन की समझ, गंभीरता और कौशल का विकास हो । व्यक्तित्व निर्माण में सहायता प्राप्त हो सके ।
- छात्रों को इन्टरनेट और ई-मेल जैसी आधुनिक सुविधाओं का प्रयोग करने एवं उसमें रोजगार की संभावनाएँ तलाषने के विकल्प बताना । तथा तकनीकी रूप से सक्षम बनाने पर बल दिया जाना है ।
- षोध का अर्थ, आवष्यकता, महत्त्व, 'षोध प्रक्रिया के विविध चरण एवं विभिन्न 'षोध प्रविधियों से छात्रों को अवगत कराया जाना । जिससे छात्रों में शोध के प्रति जिज्ञासा व रूचि उत्पन्न हो सके । शोध के कारण साहित्य और भाषा में नवीन संभावनाओं के रास्ते खुल सकें ।
- समगत: 'कार्यालयी हिंदी और कम्प्यूटर' का सम्पूर्ण पाठ्यक्रम आत्मनिर्भरता एवं काषल विकास पर बल देता है । जिससे छात्रों को एक बेहतर भविष्य बनाने में सहायता प्राप्त होती है । साथ ही हिंदी भाषा के मानकीकृत स्वरूप की समझ विकसित करती है । छात्रों को तकनीकी से जोड़ती है ।

बी0ए0-द्वितीय वर्ष  
तृतीय सेमेस्टर  
हिन्दी स्नातक – A010301T  
हिन्दी गद्य

**Course Out Comes:**

हिन्दी के छात्रों को हिन्दी गद्य की सभी विधाओं का सम्यक् ज्ञान देना तथा उन्हें हिन्दी के उपन्यासकारों, कथाकारों, नाटककारों तथा एकांकीकारों, निबन्धकारों एवं अन्य गद्य विधाओं के लेखकों के महत्वपूर्ण प्रदेय से परिचित कराना, ताकि विद्यार्थी इन सभी विधाओं से परिचित हो सकें और इस क्षेत्र में कैरियर बनाने के इच्छुक विद्यार्थी इस हेतु तैयार हो सकें ।

बी0ए0-द्वितीय वर्ष  
चतुर्थ सेमेस्टर  
हिन्दी स्नातक – A010401T  
हिन्दी अनुवाद

**Course Out Comes:**

विद्यार्थियों को हिन्दी के साथ-साथ अंग्रेजी की प्रारम्भिक जानकारी प्रदान करते हुए वैश्विक प्रतिस्पर्द्धात्मक वातावरण के साथ सामंजस्य स्थापित करने में सक्षम बनाना तथा भारतीय संस्कृति और साहित्य के प्रचार प्रसार में सहायक बनाना ।

## हिन्दी साहित्य

बी0ए0 –तृतीय वर्ष

सेमेस्टर –पंचम

प्रश्नपत्र का नाम –साहित्य शास्त्र और हिन्दी आलोचना

प्रश्नपत्र कोड –A010501T

उद्देश्य (Course Outcomes)

इस प्रश्नपत्र के अध्ययन से विद्यार्थी साहित्यशास्त्र एवं आलोचना के अर्थ, महत्व और उनके विषय क्षेत्र से परिचित हो सकेंगे। तथा वे हिन्दी आलोचना के रूप में भारतीय एवं पाश्चात्य काव्यशास्त्र के आधुनिक विकास के विविध रूपों और दिशाओं का साक्षात्कार कर सकेंगे।

हिन्दी साहित्य

बी0ए0 तृतीय वर्ष

सेमेस्टर –पंचम

प्रश्नपत्र का नाम – हिन्दी का राष्ट्रीय काव्य

प्रश्नपत्र कोड –A010502T

उद्देश्य (Course Outcomes) –

हिन्दी राष्ट्रीय चेतना से जुड़े कवियों की रचनाओं के माध्यम से विद्यार्थियों में राष्ट्र के प्रति अनुराग जागृत करना।

हिन्दी साहित्य

बी0ए0 तृतीय वर्ष

सेमेस्टर –षष्ठम

प्रश्नपत्र का नाम – भाषा विज्ञान, हिन्दी भाषा तथा देवनागरी लिपि

प्रश्नपत्र कोड –A010607T

उद्देश्य (Course Outcomes) –

भाषा के अंगों, हिन्दी भाषा के उद्भव और विकास और देवनागरी लिपि के स्वरूप की जानकारी प्राप्त होगी। विद्यार्थियों को हिन्दी की वैज्ञानिक और वैधानिक स्थिति से परिचित कराना प्रमुख उद्देश्य है।

हिन्दी साहित्य

बी0ए0 तृतीय वर्ष

सेमेस्टर –षष्ठम

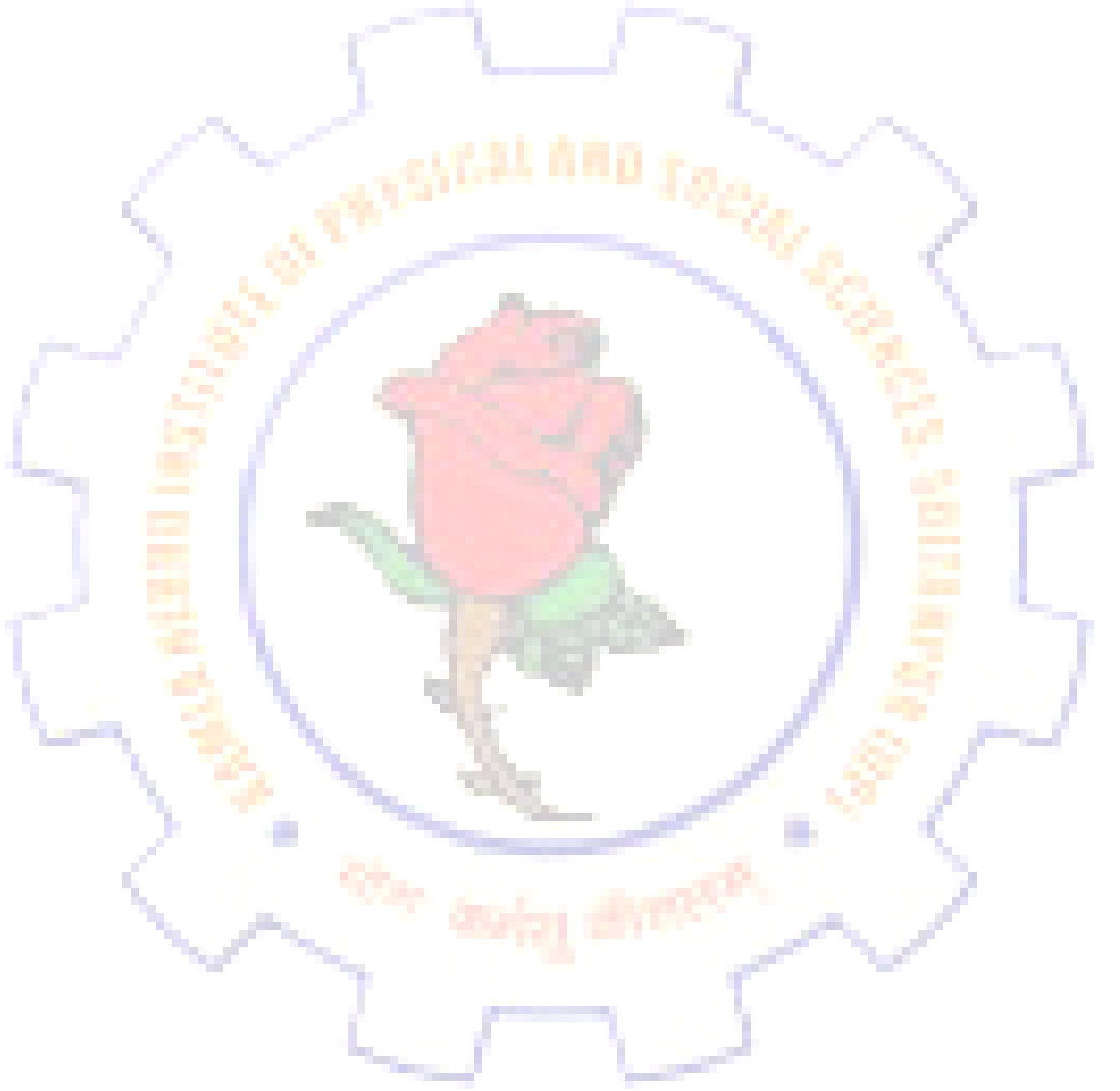
प्रश्नपत्र का नाम – लोक साहित्य एवं लोक संस्कृति

प्रश्नपत्र कोड –A010602T

उद्देश्य (Course Outcomes) –



भारतीय संस्कृति में जनश्रुति से निर्मित साहित्य के महत्वपूर्ण योगदान से विद्यार्थियों को परिचित कराना तथा लोक संस्कृति के विकास से विद्यार्थियों को अवगत कराना।



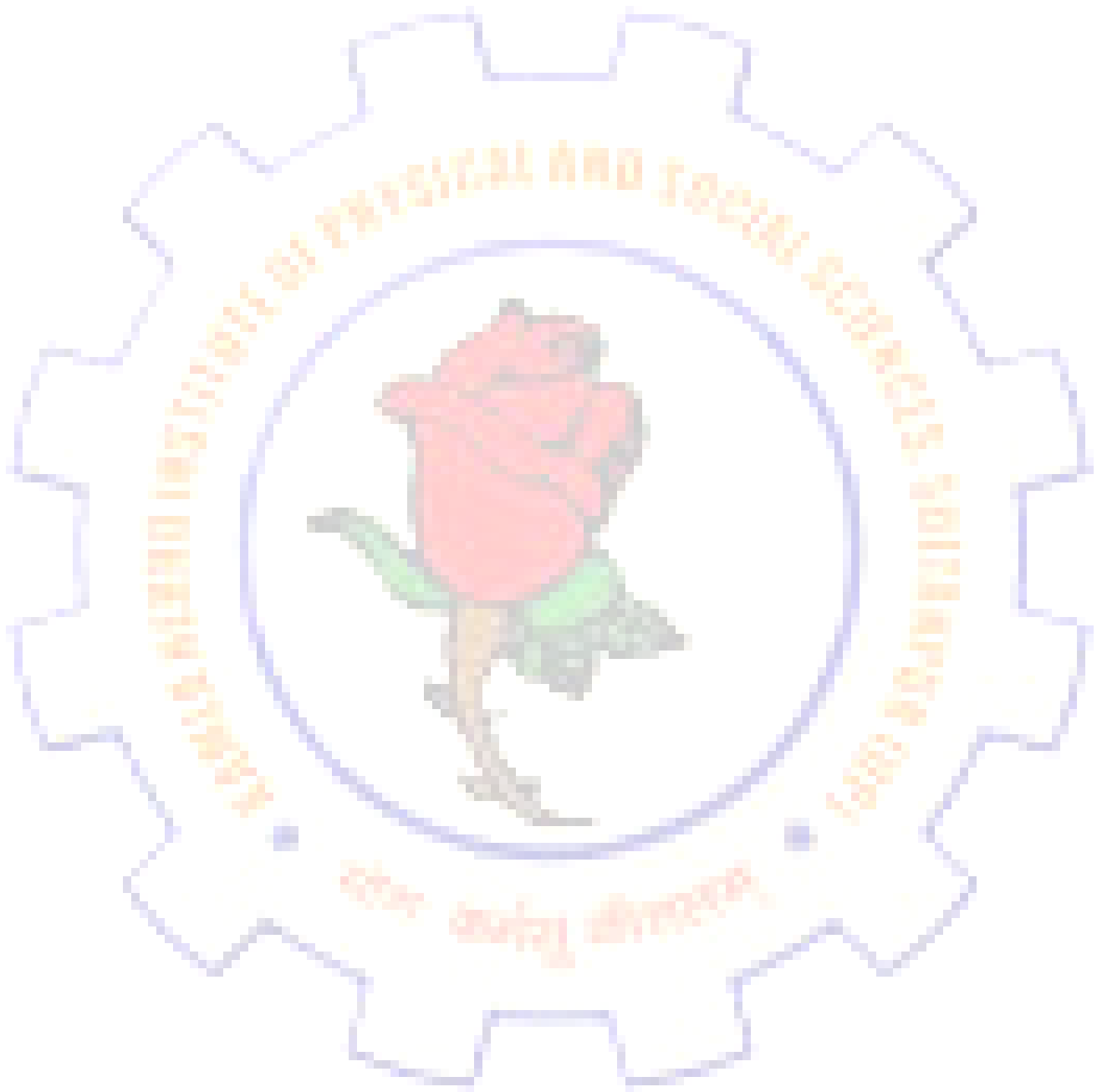
## Department of History

### Program outcomes:

1. This course provides the basic ideas and concepts of History and Historical development of Humanity.
2. The program has been designed to develop historical outlook to resolve the day-to-day life struggles in the society and nation.
3. Designed to enhance the capacity of students to understand universal and domain-specific values in History.
4. This course intends to orient the learner with the Approaches to the broader discipline of History.
5. Develop the ability to address the complexities and interface among of self, societal, national, and international priorities.
6. Promote research, innovation, and design (Map and Atlas) development favouring all the disciplines in History.
7. This programme develops scientific and practical approach among the students which helps in their day-to-day life.
8. It will help in developing analytical and critical thinking based on the themes and issues of history.
9. It will help in understanding of the basic concepts of History and an awareness of the emerging areas of the field.
10. Acquisition of in-depth understanding of the applied aspects of History as well as interdisciplinary subjects in everyday life.
11. The programme orients students with traditional historical knowledge along with advance.
12. Contemporary skills like role of remote sensing, Carbon dating and GIS in the field of history and archaeology.
13. Improvement of critical thinking and skills facilitating.
14. Inculcate generic and subject-specific skills to succeed in the employment market and standards of life.
15. Learn about the discipline of History as a holistic field of study covering multiple facets and requirements of human beings in day to day living, for example, achievement of appropriate milestones in personal development; awareness, need and use of historical

resources; access to adequate knowledge system for wholesome development; historical fundamentals.

16. May have capabilities to start earning by enhancing their skills in the field of Historical and Traditional knowledge system, Tourism, Archives and Museums.\



# Faculty of Commerce

## Department of Commerce

### Bachelor of Commerce:

#### Programme Outcomes:

The career options for students pursuing B.Com. Programme is vast and candidates will always have interesting profiles to work at if they play to their strengths. While many B.Com. Graduates may choose the much tried and tested path of CA, CS, CMA and other related fields of study, one has ample opportunity to choose an out-of-the-box career option, as one in travel and hospitality, media and telecommunications depending on the path and degree one chooses.

#### Programme Specific Outcomes:

Earning a graduate degree of commerce (B.Com.) is evidence of persistence, determination, intellectual prowess, and the ability to handle challenging environments all of which are sought-after qualities for individuals filling manager and director positions. An employee who has demonstrated success in a long-term situation that requires stamina, discipline, leadership, and the ability to work well with others is going to be in line for growth opportunities within his or her organization. B.Com. graduate after completion of course can choose to work in job profile option available to them depending on their calibre and interest area such as Accountant, Auditor, Consultant, Company Secretary, Business Analyst, Finance Officer, Sales Analyst, Junior Analyst, Tax Accountant, Stock Broker, Economist, and Business Development Trainee and so on to explore.

#### *Course Outcomes*

#### *B.Com I<sup>st</sup> Semester*

#### *Course Title: Business Organization*

#### *Course Code: C010101T*

1. Ability to understand the concept of Business Organisation along with the basic laws and norms of Business Organisation.
2. Ability to understand the terminologies associated with the field of Business Organisation along with their relevance.
3. Ability to identify the appropriate types and functioning of Business Organisation for solving different problems.
4. Ability to apply basic Business Organisation principles to solve business and industry related problems.
5. Ability to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc.

**Course Title: Business Statistics**

**Course Code: C010102T**

1. The purpose of this paper is to inculcate and analytical ability among the students.
2. The purpose of paper to inculcate ability among the students.
3. This paper is very useful for the student because it increases the mathematical approach in the students.
4. It is useful for students in making plan and analyse the data and in figuring out the results.
5. It is useful in forecasting the future events. It helps students in data collection, classifications, tabulation and presentation of data in the form of table diagram and graphs.

**Course Title: Business Communication**

**Course Code: C010103T**

1. To Acquire skills in reading, writing, comprehension and communication and also to use electronic media for business communication.
2. They will develop a good communication skill.
3. It will benefit them in good recitation.
4. It will benefit them in their personality development.
5. It will help them to become a good listener and learner.
6. Study of Business Communication will help them in effective writing.
7. To increase practical knowledge of electronic media.
8. To acquire skills in reading, writing, comprehension and communication, and also to use electronic media for business communication.

**Course Title: Introduction to Computer Application**

**Course Code: C010104T**

The objective of this course is to provide basic knowledge of computer, DBMS, data base language and word processing.

**Course Title: Principles of Micro Economics**

**Course Code: A080101T**

1. The students are familiarized with basic concepts of microeconomics such as laws of demand and supply and elasticity etc so that he/she can comprehend them & familiarize with day today happenings.
2. The students learn and understand the concepts of consumer behaviour like cardinal utility and ordinal utility analysis.
3. The students learn and understand application of Indifference curve analysis in deriving demand curves, price effect, income effect and substitution effect.
4. The students learn and understand the Theory of production- iso-quants, laws of returns to scale, law of variable proportion.
5. The students learn, understand and compare between the Traditional and modern theory of cost.
6. Demonstrate an understanding, usage and application of basic economic principles.

7. Describe and apply the methods for analyzing consumer behaviour through demand and supply, elasticity and Marginal utility.
8. To analyze the behavioural patterns of different economic agents regarding profit, price, cost etc.
9. The decision-making process in different market situations such as perfect competition, monopolistic competition, monopoly and oligopoly markets.
10. To deal with the advance theoretical issues and their practical applications of distribution theories.

***Course Outcomes***

***B. Com II<sup>nd</sup> Semester***

***Course Title: Business Management***

***Course Code: C010201T***

1. Ability to understand the concept of Business Management along with the basic laws and norms of Business Management.
2. Ability to understand the terminologies associated with the field of Business
3. Management and control along with their relevance.
4. Ability to identify the appropriate method and techniques of Business
5. Management for solving different problems.
6. Ability to apply basic Business Management principles to solve business and industry related problems.
7. Ability to understand the concept of Planning, Organising, Direction, Motivation and Control etc.

***Course Title: Financial Accounting***

***Course Code: C010202T***

1. Course outcomes: The objective of this paper is to help students to acquire conceptual knowledge of fundamentals of accounting and to impart skills for recording various kinds of business transactions.
2. The objective of this paper is to help students to acquire conceptual knowledge of fundamentals of accounting and to impart skills for recording various kinds of business transactions.
3. To improve the recording system of business transaction in various types of business.
4. To improve the understanding of students of profitability and financial position of business enterprise.

***Course Title: Computerised Accounting (Practical)***

***Course Code: C010203P***

1. The purpose of this paper is provide to knowledge of accounting
2. with computer.
3. To provide knowledge of various components of computer.
4. To provide knowhow about importance of computerised accounting now days.
5. To provide knowledge about various accounting softwares.
6. The purpose of this paper is to provide knowledge of accounting using computers.

**Course Title: Essentials of E-commerce**

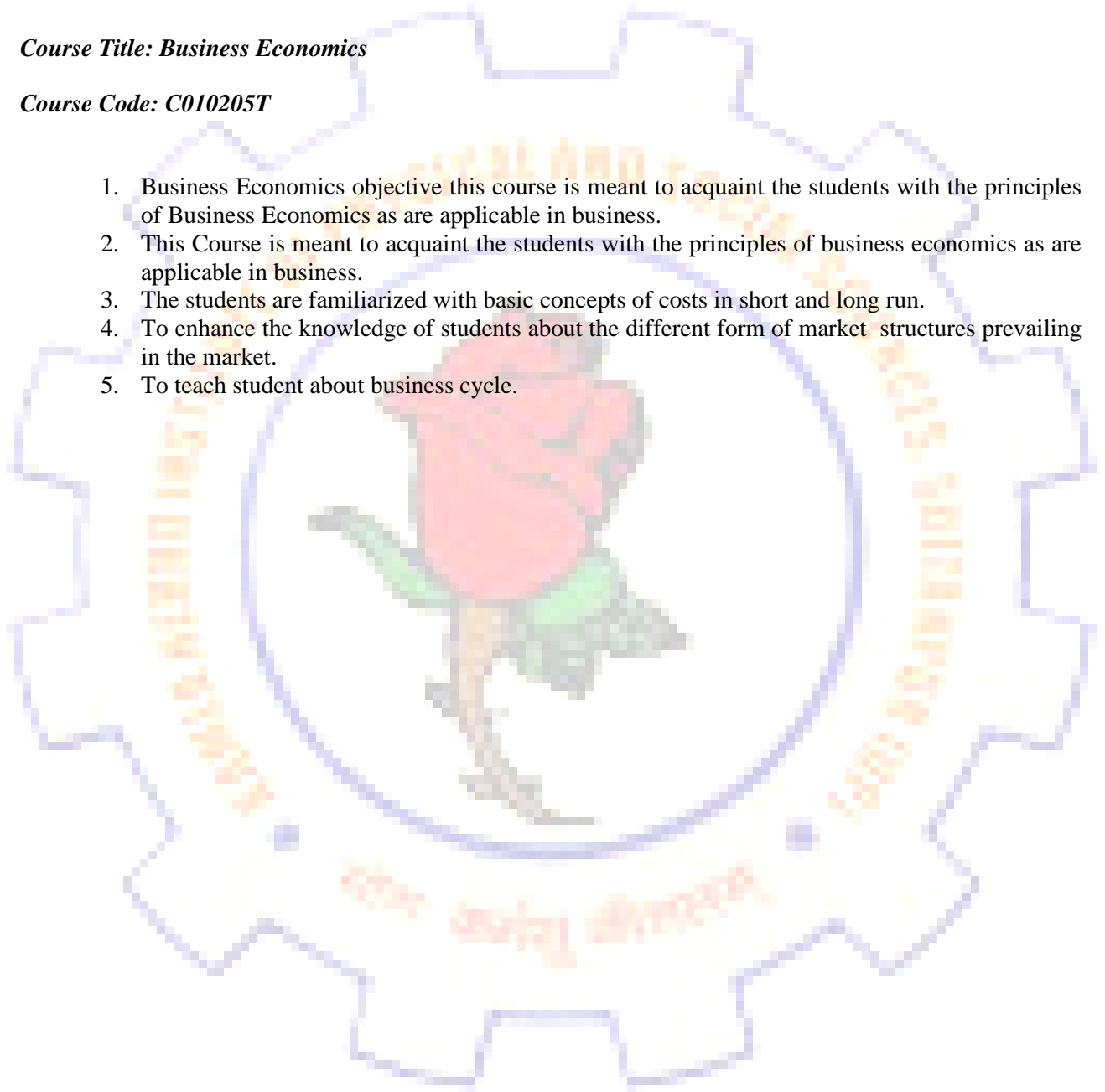
**Course Code: C010204T**

This course is to familiarize the student with the basics of ecommerce and to comprehend its potential.

**Course Title: Business Economics**

**Course Code: C010205T**

1. Business Economics objective this course is meant to acquaint the students with the principles of Business Economics as are applicable in business.
2. This Course is meant to acquaint the students with the principles of business economics as are applicable in business.
3. The students are familiarized with basic concepts of costs in short and long run.
4. To enhance the knowledge of students about the different form of market structures prevailing in the market.
5. To teach student about business cycle.



***Course Outcomes***

***B. Com III<sup>rd</sup> Semester***

***Course Title: Company Law***

***Course Code: C010301T***

1. The objective of this course is to provide basic knowledge of the provisions of the Companies Act 2013 along with relevant cases.
2. Theoretical and Practical knowledge of the subject Company Law.
3. To provide insights about the benefits to the country and society after establishing business in the form of company.
4. Knowledge of business laws and regulations.
5. It will be easier to understand every type of business legal terms and conditions.

***Course Title: Cost Accounting***

***Course Code: C010302T***

1. This course exposes the students to the basic concepts and the tools
2. used in cost accounting.
3. Imbibe conceptual knowledge of cost accounting.
4. Understand the significance of cost accounting.
5. Classifying Costs.
6. Recognise the importance of material issues and its pricing.
7. Apply the cost accounting methods in different types of business.
8. Understand the techniques of cost control.
9. Reconcile cost and financial statements.
10. Interpret the impact of selected cost methods.
11. Apply cost accounting methods to evaluate the project performance.

***Course Title: Business Regulatory Framework***

***Course Code: C010303T***

1. The objective of this course is to provide a brief idea about the framework of Indian Contract Act, 1872 and Sale of Goods Act, 1930. Syllabus for BRF (Business Regulatory Framework) comprises Indian Contract Act, Negotiable Instrument Act and Sales of Goods Act.
2. The syllabus enables the students to acquire knowledge about the legislative conditions prevailing in the country.
3. This acquired knowhow about the legal conditions helps the student to survive in any kind of undesirable condition related to Law.
4. As these laws are related to the business environment it will help them to run their business successfully without any hindrances.

***Course Title: Inventory Management***



**Course Code: C010304T**

1. Ability to understand the concept of Inventory Management along with the basic laws and axioms of Inventory Management.
2. Ability to understand the terminologies associated with the field of Inventory management and control along with their relevance.
3. Ability to identify the appropriate method and techniques of Inventory management for solving different problems.
4. Ability to apply basic Inventory management principles to solve business and industry related problems.
5. Ability to understand the concept of Working Capital Management, Demand Analysis and Obsolescence.

**Course Outcomes**

**B.Com IV<sup>th</sup> Semester**

**Course Title: Income Tax Law and Accounts**

**Course Code: C010401T**

It enables the students to know the basics of Income Tax Act and its implications.

**Course Title: Fundamentals of Marketing**

**Course Code: C010402T**

The objective of this course is to provide basic knowledge of concepts, principles, tools and techniques of marketing.

**Course Title: Digital Marketing (Practical)**

**Course Code: C010403P**

1. Ability to understand the concept of Digital Marketing along with the basic forms and norms of Digital Marketing.
2. Ability to understand the terminologies associated with the field of Digital Marketing and control along with their relevance.
3. Ability to identify the appropriate method and techniques of Digital Marketing for solving different problems.
4. Ability to apply basic Digital Marketing principles to solve business and industry related issues and problems.
5. Ability to understand the concept of Budgetary Control, Cash Flow Statement, Fund Flow Statement, Break Even Analysis etc.

**Course Title: Fundamentals of Entrepreneurship**

**Course Code: C010404T**

1. Ability to understand the concept of Entrepreneurship along with the basic laws and practices of Entrepreneurship.
2. Ability to understand the terminologies associated with the field of
3. Entrepreneurship along with their relevance.

4. Ability to identify the appropriate functions and qualities of Entrepreneur for solving different problems.
5. Ability to apply basic Entrepreneurship principles to solve business and industry related problems.
6. Ability to understand the concept of Life Small Business, Raising of Funds and EDP.

***Course Title: Tourism and Travel Management***

***Course Code: C010405T***

The objective of this course is to understand the fundamental concept of Tourism and to familiarize with the significance and emerging trends in tourism.

**Course Outcomes**

***B.Com V<sup>th</sup> Semester***

***Course Title: Corporate Accounting***

***Course Code: C010501T***

This course enables the student to develop awareness about corporate

***Course Title: Goods and Services Tax***

***Course Code: C010502T***

To provide students with the working knowledge of principles and provisions of GST to understand the relevance of GST in the present Indian tax in scenario and its contribution for economic development.

***Course Title: Business Finance***

***Course Code: C010503T***

This course is to help students understand the conceptual framework of Business Finance.

***Course Title: Principles and Practices of Insurance***

***Course Code: C010504T***

1. Ability to understand the concept of Insurance along with the basic laws and practices of Insurance.
2. Ability to understand the terminologies associated with the field of Insurance and control along with their relevance.
3. Ability to identify the appropriate method and types of Insurance for solving different problems.
4. Ability to apply basic Insurance principles to solve business and industry related problems.
5. Ability to understand the concept of Life, Marine and Fire Insurance.

***Course Title: Monetary Theory and Banking in India***

***Course Code: C010505T***

The course exposes the students to the working for money and financial system prevailing in India.

***Course Outcomes***

***B.Com VI<sup>th</sup> Semester***

***Course Title: Accounting for Mangers***

***Course Code: C010601T***

1. Ability to understand the concept of Managerial Accounting along with the basic forms and norms of Managerial Accounting.
2. Ability to understand the terminologies associated with the field of Managerial
3. Accounting and control along with their relevance.
4. Ability to identify the appropriate method and techniques of Managerial
5. Accounting for solving different problems.
6. Ability to apply basic Managerial Accounting principles to solve business and industry related issues and problems.
7. Ability to understand the concept of Budgetary Control, Cash Flow Statement, Fund Flow Statement, Break Even Analysis etc.

***Course Title: Auditing***

***Course Code: C010602T***

This course aims at imparting knowledge about the principles and methods of auditing and their application.

***Course Title: Financial Market Operations***

***Course Code: C010604T***

1. Ability to understand the concept of Financial Market along with the basic forms and norms of Financial Market.
2. Ability to understand the terminologies associated with the field of Financial Market and control along with their relevance.
3. Ability to identify the appropriate method and techniques of Financial Market for solving different problems.
4. Ability to apply basic Financial Market principles to solve business and industry related problems.
5. Ability to understand the concept of Primary and Secondary Market, Stock Exchange, SEBI etc.

***Course Title: Human Resource Management***

***Course Code: C010605T***

The paper aims to develop in the students a proper understanding about human resource management.

***Course Title: Business Ethics and Corporate Governance***

***Course Code: C010606T***

This course seeks to provide knowledge about the concepts, tools, techniques, and relevance of Business Ethics and Corporate Governance in the present changing scenario.

