

**PROGRAMME AND COURSE SPECIFIC OUTCOMES  
UNDER GRADUATE PROGRAMMES**

**1. FACULTY OF SCIENCE:**

**PROGRAMME NAME: B.Sc. (Mathematics and Biology Groups)**

**i. SUBJECT: ZOOLOGY**

**PROGRAMME OUTCOMES**

1. The programme has been designed in such a way so that the students get the flavour of both classical and modern aspects of Zoology/Animal Sciences. It aims to enable the students to study animal diversity in Indian subcontinent, environmental science and behavioural ecology..
2. The modern areas including cell biology and genetics, molecular biology, biochemistry, physiology followed by biostatistics, Evolutionary biology, bioinformatics and genetic engineering have been included to make the study of animals more interesting and relevant to human studies which is the requirement in recent times.
3. The lab courses have been designed in such a way that students will be trained to join public or private labs.

**B.Sc I Programme Specific Outcomes (PSOs)**

PSO1.

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.

PSO2.

The students will learn the basic principles of genetics and how to prepare karyotypes to study the chromosomes.

PSO 3

How chromosomal aberrations are inherited in humans by pedigree analysis in families.

PSO 4

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.

#### PSO 5

The Certificate courses will enable students to apply for technical positions in government and private labs/institutes.

PSO1 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.

PSO 2 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.

PSO 3 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.

PSO 4 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.

PSO 5 The Diploma courses will ensure employability in Hospitals/Diagnostics and Pathology labs with good hands-on training. It will also enable students to take up higher studies and Research as their career and work in renowned labs in the country and abroad.

#### **Course Title: Cytology, Genetics and Infectious Diseases**

##### **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 II Programme Specific Outcomes (PSOs)**

PSO1 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.

PSO 2 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.

PSO 3 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.

PSO 4 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.

PSO 5 The Diploma courses will ensure employability in Hospitals/Diagnostics and Pathology labs with good hands-on training. It will also enable students to take up higher studies and Research as their career and work in renowned labs in the country and abroad.

### **Course Title: Cell Biology & Cytogenetics Lab**

#### **Course outcomes:**

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 III Programme Specific Outcomes (PSOs)**

This programme aims to introduce students to animal diversity of

- PSO1 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

- PSO 2 shapes, size, and structural features. Inclusion of ecology and environmental sciences will enrich students with

•PSO 3 our world which is crucial for human well being 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

•PSO 4 divides leading to the growth of an organism and also reproduces to form new organisms. The basic concepts of biosystematics, evolutionary biology and biodiversity

•PSO 5 will enable students to solve the biological problems related to environment. At the end of the course the students will be capable enough to

•PSO 6 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. The Degree courses will enable students to go for higher studies.

### **Course Title: Biochemistry and Physiology**

#### **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. •

## **ii. SUBJECT: 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 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 rigour 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 specific outcomes (PSOs) : B.Sc. III Year / Bachelor of Science**

The learning outcomes of three years graduation course are aligned with program 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 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.

3. Understanding of various analytical techniques of plant sciences, use of plants as industrial resources or as human livelihood support system and is well versed with the use of transgenic technologies for basic and applied research in plants.

4. 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.

5. Entrepreneurship Skill Development, Understand the issues of environmental contexts and sustainable development, Inculcation of human values,

6. Strengthen mathematical and computational skills. Enable students to use ICT&AI effectively.

7. Develop good skills in laboratory such as observation and evaluation by the use of modern tools and technology.

**PSO 1** Understanding the nature and basic concepts of all the plant groups, their metabolism, components at the molecular level, biochemistry, taxonomy and ecology. The course will make them aware of natural resources and environment and the importance of conserving it. Hands on training in various fields will develop practical skills, handling equipments and laboratory use along with collection and interpretation of biological materials and data. Knowledge gained through theoretical and lab-based experiments will generate technical personnel in various priority areas such as genetics, cell and molecular biology, plant systematics and biotechnology.

**PSO 2** Botanists are able to contribute to all these fields and therefore, are mainly employed with educational institutions, government or public sectors or companies in industries, such as agriculture or forestry, oil, chemical, biotechnology, geological survey, environmental protection, drugs, genetic

research, plant resources laboratories, plant health inspection services, lumber and paper, food, fermentation, nursery, fruit and so on. Jobs available as a botanist: •Microbiologist, plant pathologist, Taxonomist • Plant Physiologist • Plant Biochemist • Researcher • Mycologist • Ecologist • Weed Scientist • Palaeobotanist • Conservationist • Fruit Grower • Morphologist • Cytologist • Ethnobotanist • Plant geneticists etc.

PSO 3 Inculcate strong fundamentals on modern and classical aspects of Botany, Understand knowledge of Botany is an essential pre-requisite for the pursuit of many applied sciences. It will facilitate students for taking up and shaping a successful career in Botany and allied sciences.

PSO 4 Introduction of research project will inculcate research aptitude and passion for higher education and scientific research

#### **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 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**

**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

### **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.

### **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. 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.

### **iii. SUBJECT: PHYSICS**

#### **PROGRAMME OUTCOMES (POs)**

The practical value of science for productivity, for raising the standard of living of the people is surely recognized. Science as a power, which provides tools for effective action for the benefit of mankind or for conquering the forces of Nature or for developing resources, is surely highlighted everywhere. Besides the utilitarian aspect, the value of Science, lies in the fun called intellectual enjoyment. Science teaches the value of rational thought as well as importance of freedom of thought. Our teaching so far has been aimed more at formal knowledge and understanding instead of training and application oriented. Presently, the emphasis is more on training, application and to some extent on appreciation, the fostering in the pupils of independent thinking and creativity. Surely, teaching has to be more objective based. The process of application based training, whether we call it a thrill or ability, is to be emphasized as much as the content. Physics is a basic science; it attempts to explain the natural phenomenon in as simple a manner as possible. It is an intellectual activity aimed at interpreting the Multiverse. The starting point of all physics lies in experience. Experiment, whether done outside or in the laboratory, is an important ingredient of learning physics and hence the present programme integrates six experimental physics papers focusing on various aspects of modern technology based equipments. With all the limitations imposed (even the list of experiments as given in the syllabus) if the spirit of discovery by investigation is kept in mind, much of the thrill can be experienced.

1. The main aim of this programme is to help cultivate the love for Nature and its manifestations, to transmit the methods of science (the contents are only the means) to observe things around, to generalize, to do intelligent guessing, to formulate a theory & model, and at the same time, to hold an element of doubt and thereby to hope to modify it in terms of future experience and thus to practice a pragmatic outlook.
2. The programme intends to nurture the proficiency in functional areas of Physics, which is in line with the international standards, aimed at realizing the goals towards skilled India.
3. Keeping the application oriented training in mind; this programme aims to give students the competence in the methods and techniques of theoretical, experimental and computational aspects of Physics so as to achieve an overall understanding of the subject for holistic development. This will cultivate in specific application oriented training leading to their goals of employment.
4. The Bachelor's Project (Industrial Training / Survey / Dissertation) is intended to give an essence of research work for excellence in explicit areas. It integrates with specific job requirements / opportunities and provides a foundation for Bachelor (Research) Programmes

**Course Title: Mathematical Physics & Newtonian Mechanics**

**Course Outcomes (COs)**

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. Study the origin of pseudo forces in rotating frame. 6. Study the response of the classical systems to external forces and their elastic deformation. 7. Understand the dynamics of planetary motion and the working of Global Positioning System (GPS). 8. Comprehend the different features of Simple Harmonic Motion (SHM) and wave propagation.

**Course Title: Mechanical Properties of Matter**

**Course Outcomes (COs)**

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

**Course Title: Thermal Physics & Semiconductor Devices**

**Course Outcomes (COs)**

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

#### **iv. SUBJECT- CHEMISTRY**

##### **Program's 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 Chemistries.
2. Students will be able to design and carry out scientific experiments as well as accurately record and analyze 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 behavior 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.

##### **PROGRAM SPECIFIC OUTCOMES (PSOS)**

###### **CERTIFICATE IN BIOORGANIC AND MEDICINAL CHEMISTRY**

First Year 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, synthetic dyes, Student will be able to do qualitative quantitative and bio chemical 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. Second Year DIPLOMA IN CHEMICAL DYNAMICS AND ANALYTICAL TECHNIQUES Diploma in Chemical Dynamics and Analytical Techniques 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 technique 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 Third Year DEGREE IN BACHELOR OF SCIENCE Degree in Bachelor of Science programme aims to introduce very important aspects of modern day course curriculum, namely, chemistry of hydrocarbons, alcohols, carbonyl compounds, carboxylic acids, phenols, amines, heterocyclic compounds, natural products main group elements, qualitative analysis, separation techniques and analytical techniques. It will enable the students to understand the importance of the elements in the periodic table including their physical and chemical nature and role in the daily life and also to understand the concept of chemistry to inter relate and interact to the other subject like mathematics, physics, biological science etc. Upon completion of a degree, chemistry students 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 Various research institutions and industry people in the pharmaceuticals, polymers, and food industry sectors will surely value this course

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

#### **Course outcomes:**

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 Molecular geometries, physical and chemical properties of the molecules. • Current bonding models for simple inorganic and organic molecules in order to predict structures and important bonding parameters. The chapter Recapitulation of basics of organic chemistry gives the most primary and utmost important knowledge and concepts of organic Chemistry. 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. 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. 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. Potability tests of water samples. Estimation of metal ions in samples Estimation of alkali and acid contents in samples Estimation of inorganic salts and hydrated water in samples

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

##### **Course outcomes:**

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**

##### **Course outcomes:**

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.

#### **v. SUBJECT: MATHEMATICS**

##### **Programme Outcome:**

PO1: It is to give foundation knowledge for the students to understand basics of mathematics including applied aspect for the same.

PO2: It is to develop enhanced quantitative skills and pursuing higher mathematics and research as well.

PO3: Students will be able to develop solution oriented approach towards various issues related to their environment.

PO4: Students will become employable in various govt. and private sectors

PO5: Scientific temper in general and mathematical temper in particular will be developed in students.

**Programme Specific Outcome:**

PSO1: Student should be able to possess recall basic idea about mathematics which can be displayed by them.

PSO2: Student should have adequate exposure to many aspects of mathematical sciences.

PSO3: Student is equipped with mathematical modeling ability, critical mathematical thinking, and problem solving skills etc.

PSO4: Student should be able to apply their skills and knowledge in various fields of studies including, science, engineering, commerce and management

**Course Title: Differential Calculus & Integral Calculus**

**Course outcomes: CO1:**

The programme 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. CO2: By the time students complete the course they will have wide ranging application of the subject and have the knowledge of real valued functions such as 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, Cartesian as well as parametric curves. CO3: 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. CO4: 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.

**Course Title: Matrices and Differential Equations & Geometry**

**Course outcomes:**

CO1: The subjects of the course are designed in such a way that they focus on developing mathematical skills in algebra, calculus and analysis and give in depth knowledge of geometry, calculus, algebra and other theories. CO2: 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 equation and geometrical meaning of differential equation. CO3: The subjects learn and visualize the fundamental ideas about coordinate geometry and learn to describe some of the surface by using analytical geometry. CO4: 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.

**Course Title: Algebra & Mathematical Methods**

**Course outcomes:**

CO1: Group theory is one of the building blocks of modern algebra. Objective of this course is to introduce students to basic concepts of Group, Ring theory and their properties. CO2: 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 and Algebra. CO3: The course gives emphasis to enhance students' knowledge of functions of two variables, Laplace Transforms, Fourier Series. CO4: On successful completion of the course students should have knowledge about higher different mathematical methods and will help him in going for higher studies and research

**Course Title: Differential Equations & Mechanics**

**Course outcomes:**

CO1: 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. CO2: 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 problem. CO3: The object of the paper is to give students knowledge of basic mechanics such as simple harmonic motion, motion under other laws and forces. CO4: The student, after completing the course can go for higher problems in mechanic such as hydrodynamics, this will be helpful in getting employment in industry.

**Course Title: Group and Ring Theory & Linear Algebra**

**Course outcomes:**

CO1: Linear algebra is a basic course in almost all branches of science. The objective of this course is to introduce a student to the basics of linear algebra and some of its applications. CO2: Students will be able to know the concepts of group, ring and other related properties which will prepare the students to take up further applications in the relevant fields. CO3: The student will use this knowledge in computer science, finance mathematics, industrial mathematics and bio mathematics. After completion of this course students appreciate its interdisciplinary nature.

**vi. SUBJECT: STATISTICS**

**Programme Outcomes (POs)**

Students having Degree in B.Sc. (with Statistics) should have knowledge of different concepts and fundamentals of Statistics and ability to apply this knowledge in various fields of industry. They may pursue their future career in the field of Statistics and Research. :

**Programme Specific Outcomes (PSOs) :**

After completing B.Sc. (with Statistics) the student should have Knowledge of different concepts, principles, methodologies and tools (skills) of Statistics.→ Ability to collect, tabulate, represent graphically, analyze and interpret data/information by using appropriate→ statistical tools. Ability to identify and solve a wide range of problems in real life/industry related to Statistics.→ Familiarity with computational techniques and statistical software including programming language (e.g. R) for→ mathematical and statistical computation. Capability to use appropriate statistical skills in interdisciplinary areas such as finance, health, agriculture,→ government, business, industry, telecommunication and bio-statistics. Ability to compete with industrial/private sector demand in the field of data analysis, marketing survey, etc. in→ professional manner and pursue their future career in the field of Statistics. Ability to develop original thinking for formulating new problems and providing their solutions. As a result, they will→ be able to pursue higher studies or research in the field of Statistics

**Course Title: Descriptive Statistics (Univariate) and Theory of Probability**

**Course outcomes:**

After completing this course a student will have: Knowledge of Statistics, its scope and importance in various fields.) Ability to understand concepts of sample vs. population and difference between) different types of data. Knowledge of methods for summarising data sets, including common graphical tools) (such as boxplots, histograms and stemplots). Interpret histograms and boxplots. Ability to describe data with measures of central tendency and measures of) dispersion. Ability to understand measures of skewness and kurtosis and their utility and) significance. Ability to understand the concept of probability along with basic laws and axioms of) probability. Ability to understand the terms mutually exclusive and independence and their) relevance. Ability to identify the appropriate method (i.e. union, intersection, conditional, etc.) for solving a problem. Ability to apply basic probability principles to solve real life problems.) Ability to understand the concept of random variable (discrete and continuous),) concept of probability distribution.

**Course Title: Descriptive Data Analysis Lab (Univariate)**

**Course outcomes:**

After completing this course a student will have: Ability to represent/summarise the data/information using appropriate Graphical) methods including common graphical tools (such as boxplots, histograms and stemplots) and also to draw inferences from these graphs Acquire the knowledge to identify the situation to apply appropriate measure of) central tendency as per the nature and need of the data and draw meaningful conclusions regarding behavior of the data. Acquire the knowledge to identify the

situation to apply appropriate measure of dispersion as per the nature and need of the data and draw meaningful conclusions regarding heterogeneity of the data. Ability to measure skewness and kurtosis of data and define their significance. Acquire the knowledge to compute conditional probabilities based on Bayes Theorem .

### **Course Title: Descriptive Statistics (Bivariate) and Probability Distributions**

#### **Course outcomes:**

After completing this course a student will have: Knowledge of the method of least squares for curve fitting to theoretically describe experimental data with a function or equation and to find the parameters associated with the model. Knowledge of the concepts of correlation and simple linear regression and Perform correlation and regression analysis. Ability to interpret results from correlation and regression. Ability to compute and interpret rank correlation. Ability to understand concept of qualitative data and its analysis. Knowledge of discrete distributions. Discuss appropriate distribution negative binomial, Poisson, etc. with their properties and application of discrete distribution models to solve problems. Knowledge of continuous distributions. Discuss the appropriate distribution (i.e. uniform, exponential, normal, etc.) with their properties and application of continuous distribution models to solve problems. Knowledge of the formal definition of order statistics, derive the distribution function and probability density function of the  $r$ th order statistic and joint distribution of  $r$ th and  $s$ th order statistics. Ability to identify the application of theory of order statistics in real life problems.

### **Course Title: Descriptive Data Analysis Lab (Bivariate)**

#### **Course outcomes:**

After completing this course a student will have: 1. Ability to deal with the problems based on fitting of curves by Method of least squares e.g. fitting of straight line, second degree polynomial, power curve, exponential curve etc. 2. Ability to deal with problems based on determination of Regression lines and calculation of Correlation coefficient – grouped and ungrouped data. 3. Ability to deal with the problems based on determination of Rank correlation. 4. Ability to fit binomial and poisson distribution for given data.

## **2. FACULTY OF COMMERCE**

### **PROGRAMME NAME: B.COM.**

#### **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 caliber 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 Code: C010101T Course Title: Business Organization**

#### **Course outcomes:**

After completing this course a student will have: Ability to understand the concept of Business Organisation along with the basic laws and norms of Business Organisation. Ability to understand the terminologies associated with the field of Business Organisation along with their relevance. Ability to identify the appropriate types and functioning of Business Organisation for solving different problems. Ability to apply basic Business Organisation principles to solve business and industry related problems. Ability to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc.

### **Course Code: C010102T Course Title: Business Statistics**

#### **Course outcomes:**

The purpose of this paper is to inculcate and analytical ability among the students.

### **Course Code: C010104T Course Title: Introduction to Computer Application**

#### **Course outcomes:**

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

### **Course Code: C010201T Course Title: Business Management**

#### **Course outcomes:**

After completing this course a student will have: Ability to understand the concept of Business Management along with the basic laws and norms of Business Management. Ability to understand the terminologies associated with the field of Business Management and control along with their relevance

### **Course Code: C010202T Course Title: Financial Accounting**



**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.

Course Code: C010203P Course Title: Computerised Accounting (Practical)

**Course outcomes:** The purpose of this paper is provide to knowledge of accounting with computer.

**Course Code: C010204T Course Title: Essentials of E-commerce**

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

**Course Code: C010205T**

**Course Title: Business Economics**

**Course outcomes:**

Business Economics objective this course is meant to acquaint the students with the principles of Business Economics as are applicable in business.

**Course Code: C010301T Course Title: Company Law**

**Course outcomes:**

The objective of this course is to provide basic knowledge of the provisions of the Companies Act 2013 along with relevant cases

**Course Code: C010302T Course Title: Cost Accounting**

**Course outcomes:**

This course exposes the students to the basic concepts and the tools used in cost accounting.

**Course Code: C010303T Course Title: Business Regulatory Framework**

**Course outcomes:**

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.

**Course Code: C010304T Course Title: Inventory Management**

**Course outcomes:**

After completing this course a student will have: Ability to understand the concept of Inventory Management along with the basic laws and axioms of Inventory Management. Ability to understand the terminologies associated with the field of Inventory management and control along with their relevance. Ability to identify the appropriate method and techniques of Inventory management for

solving different problems. Ability to apply basic Inventory management principles to solve business and industry related problems. Ability to understand the concept of Working Capital Management, Demand Analysis and Obsolescence.

**Course Code: C010401T Course Title: Income Tax Law and Accounts**

**Course outcomes:**

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

**Course Code: C010402T Course Title: Fundamentals of Marketing**

**Course outcomes:**

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

**Course Code: C010403P Course Title: Digital Marketing (Practical)**

**Course Outcomes:**

After completing this course a student will have: Ability to understand the concept of Digital Marketing along with the basic forms and norms of Digital Marketing. Ability to understand the terminologies associated with the field of Digital Marketing and control along with their relevance. Ability to identify the appropriate method and techniques of Digital Marketing for solving different problems. Ability to apply basic Digital Marketing principles to solve business and industry related issues and problems. Ability to understand the concept of Budgetary Control, Cash Flow Statement, Fund Flow Statement, Break Even Analysis etc.

**Course Code: C010404T Course Title: Fundamentals of Entrepreneurship**

**Course outcomes:**

After completing this course a student will have: Ability to understand the concept of Entrepreneurship along with the basic laws and practices of Entrepreneurship. Ability to understand the terminologies associated with the field of Entrepreneurship along with their relevance. Ability to identify the appropriate functions and qualities of Entrepreneur for solving different problems. Ability to apply basic Entrepreneurship principles to solve business and industry related problems. Ability to understand the concept of Life Small Business, Raising of Funds and EDP

**Course Code: C010405T Course Title: Tourism and Travel Management**

**Course outcomes:**

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

### **3. FACULTY OF ARTS AND HUMANITIES**

**PROGRAMME NAME: BA**

#### **i. SUBJECT: SOCIOLOGY**

PROGRAMME SPECIFIC OUTCOMES (PSOs)- Program Outcome (After 3 Years of Study) a. This course will introduce students to new concepts of Sociology discipline. b. These concepts will enhance the conceptual learning and understanding of the basic concepts used in Sociology. c. This course will contribute in enriching the vocabulary and scientific temperament of the students. d. 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 commonsense knowledge and Sociological knowledge. e. This course provides comprehensive understanding of Indian society

**Course Code A070101T Course Title Introduction to Basic Concepts of Sociology**

#### **Course Outcomes:**

This paper will introduce students to new concepts of Sociology discipline. These concepts will enhance the conceptual learning and understanding of the basic concepts used in Sociology. This paper will contribute in enriching the vocabulary and scientific temperament of the students. 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 commonsense knowledge and Sociological knowledge

**Course Code A070201T Course Title Society in India: Structure, Organization & Change.**

#### **Course Outcomes:**

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

**Course Code A070202P Course Title Writing skill development on topics of Contemporary Sociological Importance**

#### **Course Outcomes:**

This is the practical paper introduced in the second semester of the certificate course in order to develop writing skills among the students of Sociology. This would enhance and inculcate the analytical skills among the students. The paper is designed to enrich the conceptual vocabulary of the students, such that they are equipped with the writing style in Sociology. This paper is presumably beneficial for the students who are interested in the field of Media, Journalism, Essay writer, Column writer, Psephology, Journalism

**Course Code A070301T Course Title Social Change and Social Movement in India**

#### **Course Outcomes:**

This paper is designed in a manner, so that students are introduced to the concepts related to Social change and Social Movement. This course will introduce students to the dynamic aspect and dissension tendencies of society. The critical evaluation would enable students to come out with better suggestions, contributing in cohesion of society.

**Course code A070401T Course Title Social Problems & Issues of Development in India**

**Course Outcomes:**

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

**Course code A070501T Course Classical Sociological Thought**

**Course Outcomes:**

The course syllabus is designed to help students to know about the classical contributions of Pioneers of Sociology. 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. The learner will gain theoretical as well as methodological knowledge about the subject.

**Course code A070502T Course Research Methodology in Social Sciences**

**Course Outcomes:**

The course of Research Methodology in Social Sciences/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. The main purpose of the course is to develop scientific and humanistic approach towards the research work in the subject

**Course code A070503P Course Practical Application of Research Methodology/Project Work**

**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 questions and formulation of Research Design. The student will learn how to construct schedules, questionnaire and applicability of other research methods.

**Course code A070601T Course Pioneers of Indian Sociology**

**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 Indian 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.

**ii. SUBJECT: PSYCHOLOGY**

**Program Outcome (After 3 Years)**

The learning outcomes that a student should be able to exhibit on completion of a degree level program in Psychology are as follows: (i) Comprehension about the discipline, its research methods, related theories and models. (ii) Knack to link up theory with individual experiences and varied applied settings. (iii) Capacity to practice professional skills in the area of psychological testing, assessment and counseling. (iv) Development of skills in specific areas related to specific specialization (e.g. psychodiagnostics, counseling, learning disability, health, community mental health and organizational behavior). (v) A general understanding about how knowledge of psychology can be applied to benefit the management and/or amendment of problems of mankind. (vi) Capability to articulate ideas in appropriate manner, with scientific writing and authentic reporting. (vii) Sensitivity towards diverse contexts, ethnic groups, minorities, marginalized groups and gender issues (viii) Development of skills and attributes of empathy, team work, coordination, cooperation, conflict resolution, and congruence.

**Course Code: A090101T Course Title: Basic Psychological Processes**

**Course Outcome:**

The students will learn about the fundamental processes and core psychological concepts, models, classical theories, varied perspectives, and will be able to apply them in their own and in others lives. It will also give the learner a clear understanding of the concepts like intelligence, motivation, emotion and personality. It will develop critical analytical skills regarding these individualistic traits.

**Course Code: A090102P Course Title: Lab Work**

**Course Outcome:**

Students will be imparted a variety of skills to design and conduct psychological experiments ensuring controlled conditions, report writing and interpretations of the report.

**Course Code: A090201T Course Title: Basic Research Methodology and Statistics**

**Course Outcome:**

The learners will be able to comprehend psychological data and can put them on appropriate scaling method. Moreover, they will be getting hold of essentials of psychological testing along with various kinds of tests implemented

**Course Code: A090301T Course Title: Psychology of Social Behavior**

**Course Outcome:**

By the end of the course, students will be able to summarize general information, through in-class discussion and assignments, pertaining to social psychological theories and an opportunity to apply social psychological theories to their lives. Critically evaluate research to understand and explain distressing human social behavior and relate social psychological concepts and theories to the context of historic and current world, national, and local events.

**Course Code: A090401T Course Title: Abnormal Psychology**

**Course Outcome:**

The students will be able to understand criteria of abnormality and one's own behavior and behavior of others. By applying the knowledge of assessment, diagnosis, classification system and DSM categories, the learners' will develop the sensitivity towards individual diversity and various approaches to the diagnosis and treatment of psychological disorders. Summarize clinical features of symptoms, etiology and valid and reliable treatment of diagnostic categories of mental health disorders.

**Course Code: A090501T Course Title: Life Span Human Development**

**Course Outcome:**

At the end of the course, the student will be able to develop an ability to identify the milestones in diverse domains of human developments across the child, adolescent and adulthood stages, understand the contributions of socio-cultural context toward shaping human development and acquire an ability to decipher key developmental challenges and issues.

**Course Code: A090502T Course Title: Positive Psychology**

**Course Outcome:**

By the end of the course, the students will be able to understand the basic principles of positive psychology, the major areas within positive psychology that have received a considerable amount of attention, the use of positive psychology tools and techniques in own and in other's life. It will also ease the understanding of positive aspects of human behavior through the wisdom embedded in Indian scriptures like Vedas, Upanishad, Shrimad Bhagwad Gita, Buddhist literature and folk tales.

**Course Code: A090504R Course Title: Problem Identification & Research Proposal Writing**

**Course Outcome:**

After completing this practicum, the student will have a comprehensive understanding about carrying out research project, how to frame research objectives and questions, plan, decide and execute appropriate methods of research, and intended data analysis.

**Course Code: A090601T Course Title: Community and Health Psychology**

**Course Outcome:**

At the end of the course the student will be able to recognize that individuals relate to their communities and the reciprocal effect of communities on individuals and will be able to understand and resolve community issues, analyze the data, and recommend interventions that promote community wellness. Moreover, they will be able to use the psychological theories on health-related practices and will be able to examine persons' health history and describe and enact a positive, proactive attitude toward healthy living for oneself and others

**Course Code: A090602T Course Title: Counseling Psychology**

**Course Outcome: A**

At the end of the paper, students will be able to understand how to establish rapport and use various approaches in counseling.

**iii. SUBJECT: POLITICAL SCIENCE**

**Course Code A060101T Course Title Indian National Movement & Constitution of India**

**Course Outcome-**

Acquaintance to Indian National Movement & Constitution is indispensable for a student to make a sense of Indian Political System. The course is designed to provide an overview of Indian freedom Struggle and key concepts of the Indian constitution to the student, which would evolve him into a conscientious citizen.

Course Code A060102P Course Title Awareness of Rights & Laws Course Outcome- This paper intends to arm the student with basic digital and legal awareness where by the student can leverage this in the job market. It also intends to make the student aware of his basic legal rights which would help him to stand up and help others.

**Course Code A060201T Course Title Political Theory & Concepts**

**Course Outcome-**

Understanding Political theory is integral and indispensable for a comprehensive and critical study of political science. The course is designed to train a student in the foundational issues of political theory, which is relevant for any in depth study and research.

Course Code A060301T Course Title Political Process in India Course Outcome: Study of the functioning of Indian Democratic System is essential for a comprehensive understanding of the Indian Political System. The course is designed to train & acclimatize the student with the Indian Political System in action and explain the working relationship between citizens and state and among various units of the

state. The student would be able to appreciate the trajectory of the Indian political system since independence.

**Course Code A060401T Course Title: Western Political Thought**

**Course Outcome:**

This course introduces the students to the ancient, medieval and modern political thinking in the West. This would help them understand the manner in which ideas pertaining to ideal state, kingship, duties of the ruler and the ruled, rights, liberty, equality, and justice have evolved over a period of time.

Course Code A060501T Course Title Comparative Government And Politics UK, USA, Switzerland & China  
Course Outcome : Politics is the mirror of the society. This paper will help the student in furthering his understanding of the world around. This would help him to appreciate other systems and make him critically analyze the pros and cons of these systems. Comparison is widely used method of scientific knowledge. This would help the student to find out why a certain system is appropriate and suitable to a given society.

**iv. Physical Education**

**PROGRAMME OUTCOMES :**

Physical Education is a very wide subject in which biological, psychological, physical, health and functional aspects of sports and body are studied. It is noteworthy that it is such a subject with the help of which human body both internally and externally can be kept healthy. Students will definitely be able to discharge duties towards themselves and society through this subject. Under this subject, the students can demonstrate excellently their skills and perfection particularly in sports ability, management, leadership, health plan, event management, sports budgeting, physiology, teaching methods, sports psychology and research along with getting information regarding to the importance of Physical Education for DIVYANG.

**Course code: E020101T Course Title: Elementals of Physical Education**

**Course Outcomes:**

The physical education is very wide concept and this subject teaches about introduction and Sociological concept of Physical Education and this also teaches about historical development of physical education in India and other countries. Its introduce a general concept of good health and wellness. This program will also help a student to promote healthy way of living and they will also be able to make fitness and health plan.

**Course Code: E020102P Course Title: Fitness and Yoga**

**Course Outcomes:**



Yoga is very helpful in prevention of many diseases and students will learn about it. This subject deals with basic knowledge about Aerobics and Gymnasium classes which will help students to excel in the fitness industry.

**Course code: E020201T Course Title: Sports organization and Management**

**Course Outcomes:**

This course is designed to give real time exposure to students in the area of organising an event/sports. The students will also learn about store management, purchasing and budget making.

**Course Code: E020401T Course Title: Sports Psychology And Recreational Activities**

**Course outcomes:**

students can be able to understand various aspects of psychology apply to sports person and how to organize sports and recreational activities

**Course Code: E020501T Course Title: Athletic Injuries and Rehabilitation**

**Course outcomes:**

students can be able to understand Athletic Injuries and Athletic Care and Rehabilitation.

**Course Code: E020502T Course Title: Kinesiology and Biomechanics in Sports**

**Course outcomes:**

students can be able to understand various aspects of Kinesiology and Biomechanics in Sports and able to apply in sports activities.

Course Code: E020602T Course Title: Physical education for DIVYANG Course outcomes: This subject will help the students to understand the needs of the disabled (DIVYANG) people and make them ready to tackle any situation which comes in front of them while dealing disabled people. This subject can also teach Inclusion in sports for adapted people.

#### **v. SUBJECT- PHILOSOPHY**

**Programme Outcome (After 3 Years):**

The completion of the 3 years graduation programme in Philosophy will enable a student to: (i) Understand the broad ideas that are enshrined in the basic thinking of various centres of philosophy (ii) Critically analyse the hypothesis, theories, techniques and definitions offered by philosophers (iii) Understand many theories related to Philosophy of Religion, which will be helpful in solving many misconceptions related to Religion. (iv) Utilize philosophy to understand social realities and problems and to come up with ideal solutions to them (v) Identify how deeply Philosophy is connected to other disciplines like Social Science, Political Science and Natural Sciences. (vi)

Understand various issues of Applied Philosophy which are very important and relevant in contemporary world. (vii) Integrate their physical, mental and spiritual faculties so that the students can become healthier and more integrated members of the society and of the nation by the practice of Yoga. (viii) Learn tools, techniques and skills regarding the research oriented activities by the study & practice of project work.

### **Programme Specific Outcome for 1st Year**

By studying this course of one year, a student will be able to develop his/her understanding about classical Indian philosophy as well as Plato and Aristotle, the two leading thinkers of western philosophy and modern western philosophy. In this way, after one year of study, he/she would learn about both Indian and Western streams of Philosophy. Moreover, Study & practice of this course will provide a stressless and effortless life, expansion of consciousness, regulation of the nervous system etc.

#### **Course Code: A100101T Course Title: Indian Philosophy**

##### **Course outcomes:**

By studying this course, a student will learn various treatise on Classical Indian Philosophy and enquiries into the different texts which laid the foundation for Indian Philosophy.

#### **Course Code: A100201T Course Title: Western Philosophy**

##### **Course outcomes:**

In this course, a student will learn the various thinkers who shaped the form of Western Philosophy.

#### **Course Code: A100202P Course Title: Yoga**

##### **Course outcomes:**

Study & practice of this course will provide a stressless and effortless life, expansion of consciousness, regulation of the nervous system etc.

### **Programme Specific Outcome for 2nd Year:**

By studying the course of one year, a student will be able to develop his/her understanding about Ethics (Indian & Western) and Logic. In this way, after one year of study, he/she will be able to understand the moral concepts, principles and logical reasoning of Indian or Western Logic (whichever he/she chooses). Moreover, Study & practice of Yoga will provide better stamina, clarity for thoughts, a sense of inner peace, calmness, and stability in the body, Discipline their thoughts and Improved concentration.

#### **Course Code: A100301T Course Title: Ethics (Indian and Western)**

##### **Course outcomes:**

This course introduces the idea of Ethics and its relevance to society. In this paper a student studies some of the prominent theories related to Indian and Western Ethics.

#### **Course Code: A100401T Course Title: Indian Logic**

##### **Course outcomes:**

This course introduces the Indian Logic. By studying this course, a student will develop an understanding of various concepts and theories related to Indian logical reasoning.

**Course Code: A100402T Course Title: Western Logic**

**Course outcomes:**

This course introduces the Western Logic. By studying this course, a student will develop an understanding of various concepts and theories related to western logical reasoning.

**Programme Specific Outcome for 3rd Year:**

By studying this one year course, a student will become aware of Indian and Western Philosophical Problems. He/She will develop an understanding of various epistemological and metaphysical concepts. He/She will understand many theories related to Philosophy of Religion, which will be helpful in solving many misconceptions related to Religion. Student will have a better understanding by studying various Social and Political concepts and theories. The student will learn various issues of Applied Philosophy which are very important in contemporary world. Moreover, study of Yoga will provide improved attention in studies, better stamina and co-ordination for sports and a heightened awareness and balanced attitude for social activity and by the study & practice of project work student would be able to learn tools, techniques and skills regarding the research oriented activities.

**Course Code: A100501T Course Title: Problems of Philosophy (Indian and Western)**

**Course outcomes:**

By studying this course, a student will learn various Epistemological and Metaphysical problems and theories related to Indian & Western Philosophy.

**Course Code: A100502T Course Title: Applied Philosophy**

**Course outcomes:**

By studying this course, a student will learn various issues of Applied Philosophy which are relevant in contemporary world.

**Course Code: A100601T Course Title: Philosophy of Religion**

**Course outcomes:**

By studying this course, a student will learn various philosophies and theories related to religion and their relevance.

**Course Code: A100602T Course Title: Socio-Political Philosophy**

**Course outcomes:**

By studying this course, a student will understand Social and Political aspects of Philosophy especially in the context of Indian society.

**vi. SUBJECT- GEOGRAPHY**

**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.

**Course Code: A110101T Course Title: Physical Geography**

**Course outcomes:**

Students will be able to understand The Earth geomorphic transition from beginning to present day. • Plate tectonics and related movements • Landforms carved by various agents of erosion • Earth's climate and the factors that influence it • Oceans system and biogeography of the world. •

**Course Code: A110102P Course Title: Elements of Map and Surveying**

**Course Outcomes**

On completion of this course, learners will be able to: • Understand the basic idea of Map, Scale and Topographic sheets

**Course Code: A110201T Course Title: Human Geography**

**Course Learning Outcomes**

On completion of this course, learners will be able to: • To understand the Concept, Nature, Meaning and Scope of Human Geography • To understand the natural and Cultural Changes in and around the Human Environs and their interrelationship.

**Course Code: A110202P Course Title: Thematic Mapping and Surveying**

**Course Learning Outcomes**

On completion of this course, learners will be able to: • Understand the basic idea of Map, Scale and Topographic sheets

**Course Code: A110301T Course Title: Environment, Disaster Management and Climate Change**

**Course outcomes:**

Students will be able to understand The course aim is to give basic understanding of concept Environment, Climate • Change and Disaster Management. Understanding of the concept of appraisal and conservation of Environment and • Natural Resources. It will help in developing understanding about various Impacts of Climate Change. • This course shall introduce the basic concepts related to disaster Management. • This paper shall help in understanding Global effort in field of disaster • management.

**Course Code: A110302P Course Title: Statistical Techniques and Surveying**

**Course outcomes:**

Students will be able to understand To differentiate between qualitative and quantitative information. • To understand the nature of various data. • To understand sampling methods for data collection. • To present data through graphical and diagrammatic formats. • To use the concept of probability mainly the normal distribution. •

**Course Code: A110401T Course Title: Economic Geography**

**Course Learning Outcomes**

On completion of this course, learners will be able to: • Define Meaning, concepts and approaches of Economic Geography • Understand the nature of Economic activities, Resource Distribution • Understand the Effect of globalization on developing countries.

**Course Code:A110402P Course Title: Weather Maps, Geological Maps and Surveying**

**Course Learning Outcomes**

On completion of this course, learners will be able to: • Identify the various Survey Operations and Survey Instruments • To understand the idea of Basic and applied Instrumental surveying

**Course Code: A110501T Course Title: Regional Geography**

**Course outcomes:**

Students will be able to understand To understand the concept of Region and Regional Planning. • To familiarize the students with Theories and Models for Regional Planning. • To develop understanding about concept of Development, Sustainable • Development and Multi level planning.

**Course Code:A110502T Course Title: Basics of Remote Sensing and GIS**

**Course Learning Outcomes**

On completion of this course, learners will be able to: Understand the Basic idea and application of Remote sensing Techniques and • Geographical Information System

**Course Code: A110503R Course Title: Tour and Tour report**

**Course outcomes:**

Students will be able to understand The variation among geographical locations. • Interaction with people with different natural and cultural settings. • Study physical and human geography of area being visited. • Learn to prepare tour report. •

**Course Code:A110601T Course Title: Geography of India**

**Course Learning Outcomes**

On completion of this course, learners will be able to: • Understand the importance of “Ek Bharat Shrestha Bharat” • Understand the wider aspects of Geography of India

**vii. SUBJECT: EDUCATION****Program outcomes (POs) (After 3 years)-**

This course is meant for future educators and educational administrators. Education is a process of acquisition of knowledge, values, culture and skills. After completion of the program, Graduates will be able to correlate and apply Education with life situations. They will be able to understand its interdisciplinary nature. Program will be helpful in conceptualization and synthesis of knowledge of Educational aspects in relation to: Human Development- Human Behavior, Teaching Learning, Measurement and Evaluation, Society and Nation.

**BA 1st Year Education- CERTIFICATE COURSE IN BASICS OF EDUCATION****Program specific outcomes**

This course provides the basic ideas and concepts of education and nature of education. This course intends to clarify the educational aims and functions. This course will help students to understand constitutional values and provisions for Education. This paper will help in developing analytical and

critical thinking based on the themes and issues of education. This course will also attempt to build an understanding about the agencies and structure of Indian Education System, ie. Pre Primary, Primary, Secondary and Higher level. Learners are introduced to various governing/regulatory systems of the Education System. The course aims to acquaint students with modern education in contemporary India. It would familiarize them with key debates prevalent during the anti-colonial struggle and subsequent developments in post - independent India. This paper introduces the challenges faced by Indian Education and initiates a critical analysis of concerns and solutions towards better education.

**Course Code: E010101T Course Title: Conceptual Framework of Education**

**Course Learning Outcomes**

On completion of this course, learners will be able to: ● To understand the meaning, nature, scope and aims of education. ● To explain the factors of education and their interrelationship. ● To become aware of different agencies of education that influence education. ● To be acquainted with the Constitutional values and Educational provisions.

**Course Code: E010201T Course Title: Development and challenges of Indian Education System**

**Course Learning Outcomes:**

On completion of this course, learners will be able to: ● Understand the development of Indian Education during different ages, ● Analyze the trends of Education running in the different educational systems. ● Narrate the major contributions of Indian Educational Heritage in the different fields of study. ● Discuss the views of foreign travelers about Indian cultural and educational heritage. ● Identify the problems of Indian education at different levels of education. ● Assess the root cause of challenges faced by Indian education system.

**BA 2nd Year Education- DIPLOMA COURSE IN PERSPECTIVES OF EDUCATION**

**Program specific outcomes**

This course provides the basics of philosophical ideologies that have influenced the Education. It introduces learners to Indian and Western philosophical perspectives of Education. It also attempts to acquaint the students with philosophical and educational thoughts of thinkers. This course aims to acquaint students with the knowledge of Socio-Political-Economic perspectives of Education. It would familiarize them with Social contexts, Social change and Social mobility. This paper introduces the students about concept of Educational psychology. It explores the process of development and learning in Human Beings. It elaborates the approaches of learning and basics of human behavior. It examines the causes of individual differences and individuals with special needs. Mental health will also be discussed with students.

**Course Code: E010301T Course Title: Philosophical Sociological Political-Economic Perspectives of Education**

**Course Learning Outcomes**

On completion of this course, learners will be able to: ● Define Education and Philosophy. ● Explain difference between Darshan and Philosophy. ● Identify significant features of the Indian and Western philosophies. ● Illustrate the relevance of the Indian and Western philosophical for modern educational system and society. ● Compare the Indian and Western Philosophical thoughts. ● Define pluralism and diversity in Indian society. ● Relate Education with Political and Economic issues. ● Distinguish between Fundamental Rights and duties. ● Value role of Education for Sustainable Development

Course Code: E010302P Course Title: Practical: Review a book written by prominent educational thinkers included in the course II. Course Learning Outcomes On completion of this course, learners will be able to: ●Develop an stronger orientation towards research Understand the concept of Book review.●

**Course Code: E010401T Course Title: Psychological Perspectives of Education**

**Course Learning Outcomes**

On completion of this course, learners will be able to: ●Define Education and Psychology. ● Relate Education and Psychology ● Compare characteristics and needs of different stages of development. ● Name different approaches of learning. ● Distinguish between different psychological traits. ● Identify Individual Differences. ● Examine the importance Mental Health.

**BA 3rd Year Education- BACHLOR OF ARTS DEGREE IN EDUCATION**

**Program specific outcomes**

This course compiles the assessment and evaluation techniques used in Education. It acquaints the student with measurement tools of different psychological traits that are essential for teaching and learning. This course enables the students to understand concepts and needs of statistics in education, it analyses the statistics of Continues and comprehensive evaluation techniques in classroom. This course consists of the knowledge of Educational Administration and Management in student. It will develop an insight about the organizational and Administrative structure of Education. This course explains major landmarks in the journey of Indian Education. It discuss the evolving modern tendencies that are creating paradigm shift in our Education System.

**Course Code: E010502T Course Title: Educational Statistics**

**Course Learning Outcomes**

On completion of this course, learners will be able to: ● Define Statistical terms. ● Prepare graphical charts. ● Interpret the results various operations of statistics. ● Survey and collect data. ● Analyze the data with Suitable Statistical methods.

**viii. ECONOMICS**

**Programme Specific Outcomes(PSOs)-**

Student after completing graduation will be able to learn

PSO 1: The behavioural patterns of different economic agents, advance theoretical issues and their applications.

PSO 2: Understand the basic concept of microeconomics.

PSO 3: Understanding basic concepts of Macroeconomics.

PSO 4: Acquaint with some basic statistical methods to be applied in economics.

PSO 5: Acquaint with some basic mathematical methods to be applied in economics.

PSO 6: Acquaint with some basic theoretical concept of public finance.

PSO 7: Acquaint with the measurement of development with the help of theories along with the conceptual issues of poverty and inequalities with Indian perspectives.

PSO 8: Delineate the fiscal policies designed for developed and developing economics.

PSO 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.

PSO 10: Learn the basic concept of monetary analysis and financial marketing in Indian financial markets.

PSO 11: Learn the development issues of Indian economy.

PSO 12: Acquaint with some basic concept of environmental economics along with the solution of the environmental problems.

PSO 13: Learn the real and monetary sides of International economics.

PSO 14: Familiarise and acquaint with the characteristics of the economy of Uttar Pradesh.

PSO 15: To familiarize the students about issues of ethics in economic thinking and practice.

**Course Code: A080101T Course Title: Principle of Micro Economics**

**Course Outcome:**

- 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.
- The students learn and understand the concepts of consumer behaviour like cardinal utility and ordinal utility analysis.
- The students learn and understand application of Indifference curve analysis in deriving demand curves, price effect, income effect and substitution effect.
- The students learn and understand the Theory of production- iso-quants, laws of returns to scale, law of variable proportion.
- The students learn, understand and compare between the Traditional and modern theory of cost.
- Demonstrate an understanding, usage and application of basic economic principles.
- Describe and apply the methods for analyzing consumer behavior through demand and supply, elasticity and marginal utility.
- To analyze the behavioral patterns of different economic agents regarding profit, price, cost etc.
- The decision-making process in different market situations such as perfect competition, monopolistic competition, monopoly and oligopoly markets.
- To deal with the advance theoretical issues and their practical applications of distribution theories.
- General equilibrium, economic efficiency and market failure

**Course Code: A080201T Course Title: Macro Economics**

**Course Learning Outcomes**

- Students are able to explain national income, comprehend calculation methods of national income, and concepts related to national income.
- Students are able to comprehend classical theory of employment and the Keynesian approach.
- Students are able to comprehend the concept of multiplier and it's working.
- Students are able to understand the relationship between inflation and employment.
- Students are able to relate factors determining national income such as consumption, saving and investment.
- Students are able to analyze different phases of trade cycle, demonstrate various trade cycle theories, understand the impact of cyclical fluctuation on the growth of business, and lay policies to control trade cycle.

**Course Code: A080301T Course Title: History of Economic Thought**

**Course outcomes:**

- To learn and discuss, at an advanced undergraduate level, how the economic thought has evolved over time.
- Introducing students to the critical comparison of the contributions of the main schools of economics.
- To introduce & highlight before the students about Indian Economic Thinkers and their



valuable contribution in the field of Economics. ● The classical, the marginalize revolution and its application to the theories of general and partial equilibrium, the current macroeconomic debate between the neo-classical and the Keynesian school.

**Course Code:A080401T Course Title: Money, Banking and Public Finance**

**Course outcomes:**

● Understand simple concepts related with monetary economics and banking theory. ● Correlate and apply to current events & key models and concepts of monetary economics and banking theory. ● Appreciate the potential importance of monetary phenomenon in the economy. ● Understand the sources of finance both public and private ● Demonstrate the role of government to correct market failures and possible advantage of public financing. ● 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 system

**Course Code: A080501T Course Title: Economic Growth and Development**

**Course outcomes:**

● Students should be able to comprehend the concept and meaning of economic growth and economic development. ● Students should be able to distinguish between economic growth and economic development. ● Students should be able to comprehend the issues and challenges in economic growth and development. ● Students should be able to comprehend and explain the concept of poverty and human development & the related concepts. ● Students should be familiar with the approaches to development. ● Students should be able to understand and explain the factors and variable of economic development. ● Students are able to understand how international factors facilitate and impede economic development.

**Course Code: A080502T Course Title: Environmental Economics**

**Course outcomes:**

● Students should be familiar with the basic concepts of ecology environment and economy. ● Students to understand the solution to environmental problems- the command and control approach, market based methods, tax tradable pollution permit, etc, carbon trading ● Students should be familiar with the concept of Sustainable development, environmental impact assessment CO 5: Global and local environmental concerns. ● Students should be comprehend the Local Issues of Economic Bearing related to environment & development. ● Students should realize the importance and influence of environment on the economy including the quality of manpower. ● Students should realize the importance to make cleaner environment so as to achieve harmonious development.

**Course Code:A080503T Course Title: International Economics**

**Course outcomes:**

● Students should be able to understand and explain the concept, need, significance and scope of international economics. ● Students should be familiar with the approaches of international trade. ● Students should be familiar with and are able to explain the economic integration at the global level and the formation of groups. ● Students are familiar with the international organizations and their objectives. Students should be able to analyse the importance and relevance of these international organizations.

**Course Code:A080601T Course Title: Indian Economy & Economy of Uttar Pradesh**

**Course Outcome :**

- Students should be able familiar with the basic characteristics of Indian economy, ● Students should be able familiar with the it's potential on natural resources of Indian economy and the economy of Uttar Pradesh. ● Students are able to understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development. ● Students are able to develop an understanding about Uttar Pradesh , its demographic feature, natural resources and factors that cn stimulate its economic growth and development. ● Students should be familiar with the rural development of Uttar Pradesh over the period of time. ● Students should be familiar with the industrial development in India and in Uttar Pradesh

## **SUBJECT: DEFENCE AND STRATEGIC STUDIES**

### **Program Outcomes**

(POs) 1. Upon completion of the programme of Bachelor's in Defence and Strategic Studies, a student should have acquired basic competency in strategic affairs covering a wide spectrum of interstate security to global security issues including non kinetic dimensions. 2. Shall develop capability in understanding the implications of use and threat of use of force in International relations. 3. Shall seek, identify and apply the acquired knowledge in defence and strategic studies on contemporary issues of strategic relevance. 4 .Ability to move from LOTS (Lower Order of Thinking Skills) to HOTS (Higher Order of Thinking Skills) in Defence and Strategic Studies. 5. The learning of strategic studies shall arm the candidates to independently choose further course of action in his/her life whether pursuing higher education by taking specialized course in honours or identifying a career for himself or herself. 6. The course curriculum in Defence and Strategic Studies is designed to encourage the acquisition of disciplinary/subject understanding, gain academic knowledge and professional skills required for any career pursuit be it choosing for higher studies or a job. The outcome based approach, particularly in the context of Defence and Strategic Studies for undergraduate programme will incorporate a significant shift from teachers centric to learner centric pedagogies and from specific to active/participatory pedagogies where emphasis will be on field Study, educational tours, writing assignments, seminar presentation and Tutorials etc. Teaching, therefore, becomes more interesting and absorbing aiming at demonstrative learning.

### **Certificate in Fundamentals of Defence and Strategic Studies**

#### **Program Specific Outcomes (PSOs)-**

After undergoing this course a student will be in a position to – 1. Clearly understand the definition, meaning and distinguish basic concepts of war; Various types of war and its various typologies, techniques and characteristics; and Grasp the concept and theories of nuclear war in detail. (Semester-I)  
2. Become familiar in evolution of art of warfare in India; Learn and understand the Strategy, tactics, application of principles of war and causes of defeat and victory of various Indian, Mughal, Maratha and Sikh Generals. Besides, in a position to appreciate and understand evolutionary changes in the art and science of war in India through ages (Semester-II)

### **B.A. /B.Sc. Second Year Diploma in Defence and Strategic Studies**

#### **Program Specific Outcomes (PSOs) –**

After undergoing this course a student will be in a position to – 1. Develop core competencies in national security affairs by building his/her capacity on essentials of National Security through theory and practice. Understand the national security challenges both internal and external a country face; and

Understand the Contemporary security environment in the world. (Semester-III) 2. Acquaint them with the concepts of strategic thinking as propounded by prominent classical and modern thinkers. Students will also develop analytical thinking regarding relevance of such thought to contemporary period.

(Semester iV)

**B.A. /B.Sc.,Third Year Degree in Bachelor of Arts or Science**

**Program Specific Outcomes (PSOs)**

After undergoing this course a student will be in a position to – 1. Equip the students with specific knowledge of India's threat perceptions; An assessment at both internal and external level besides fair idea of problems the country faces as a nation state; and The Structure, objectives, role and problems of Civil Defence Organization in India. (Semester V) 2. Acquire knowledge on how significant the role of science and technology is to Society and to National Security. The paper also provides realization in contemplating on the military-industrial complex (MIC) of a nation; besides Understanding the concepts and applications of Electronics Warfare, Space and Ballistic Missile Defence (BMD) in Warfare. (Semester VI)

**Course Code: A120101T Course Title: Conceptual Aspects of war( Theory)**

**Course outcomes:**

The student at the completion of the course will be able to: Clearly understand the definition, meaning and distinguish basic concepts of war; Various types of war and its various typologies, techniques and characteristics; and Grasp the concept and theories of nuclear war in detail.

**Course Code: A120201T Course Title: Military History of India (Theory)**

**Course outcomes:**

After undergoing this course a student will be in a position to – Become familiar in evolution of art of warfare in India; Learn and understand the Strategy, tactics, application of principles of war and causes of defeat and victory of various Indian, Mughal, Maratha and Sikh Generals. Besides, in a position to appreciate and understand evolutionary changes in the art and science of war in India through ages.

**Course Code: A120301T Course Title: National Security-Conceptual Aspects( Theory)**

**Course outcomes:**

This course helps students develop core competencies in national security affairs by building his/her capacity on essentials of National Security through theory and practice.

**Course Code: A120401T Course Title: Strategic Thought ( Theory)**

**Course outcomes:**

The course will provide students an acquaintance with the concepts of strategic thinking as propounded by prominent classical and modern thinkers. Students will also develop analytical thinking regarding relevance of such thought to contemporary period

**Course Code: A120501T Course Title: Indian Defence Mechanism ( Theory)**

**Course outcomes:**

Students will learn about the defence mechanism of India and evaluate its strengths and weaknesses.

**Course Code: A120502T Course Title: National Security of India ( Theory)**

**Course outcomes:**

Students will learn about the defence mechanism of India and evaluate its strengths and weaknesses

**Course Code: A130601T Course Title: Science and Technology in Relation to Warfare ( Theory)**

**Course outcomes:**

At the end of this course, students acquire knowledge on how significant the role of science and technology is to Society and to National Security. The paper also provides realization in contemplating on the military-industrial complex (MIC) of a nation.

**Course Code: A130602T Course Title: Military Psychology ( Theory)**

**Course outcomes:**

After having done this course, student would be able to understand and appreciate psychological aspects of war making, military leadership and emotional issues that are faced by soldiers during war and peace.

**SUBJECT: ANCIENT INDIAN HISTORY, ARCHAEOLOGY & CULTURE**

**Programme outcome:**

The course presented will be useful in providing historical knowledge to the students, it has been constructed in such a way that it will not only gain knowledge of ancient civilizations of India and the world, but can also be understood with the help of historical development. It contains details of political and cultural development of ancient India; students may be familiar with it. Art culture and philosophy of religion of ancient India have been included in the course. Through this, students will get acquainted with historical facts and get knowledge of ancient pride of India and can develop a positive attitude towards history. The students will be motivated to contribute towards nation building by making them aware of the composite culture of India. This course will develop the logical ability of the students to do rational analysis of historical events and will develop research attitude in the students. It will not only inspire the logical ability of the students but will also provide them employment orientation.

**A. Early cultures of India**

**Programme Specific Outcome**

Through this section, students can gain knowledge in terms of the origin and development of Indus-Saraswati civilization. Students can gain knowledge in the context of Vedic culture and the life of Aryans, develop an understanding of the epic society and the ideals of the state.

**B. Ancient Civilizations of the World**

**Programme Specific outcome**

The purpose of this section is to teach the ancient civilizations of the world. In this section, students will become familiar with the civilization of Mesopotamia, the civilization of China and the civilization of the Nile Valley.

**4. FACULTY OF LANGUAGES**

**PROGRAMME: BA (Languages)**

**i. SUBJECT : HINDI**

**GENERAL PROGRAMME OUTCOMES**

➤ विवाङ्मय को भारतीय ंान परंपरा के अंतगृत िहदी साहि्य एवं भाषा का आधारभूत ंान ंार होगा। ➤ साहि्य के मूलभूत ंवष, यथा विभृ विधा, िहदी के रोजगारपरक ंवष आडद कड जानकारी ंार होगी। ➤ वि कड सवाधिक वैंािनक भाषा अथात िहदी मः रोजगार कौशल ंार होगा। ➤ भाषा, साहि्य तथा संकृ ित कड अतसबता के ंित विवाङ्मय मः समझ विविसत होगी। ➤ विवाङ्मय मःरफ़ीयता तथा नैतिक चडरं कड भावना का

विकास होगा। >कंप्यूटर, सिनेमा, अनुवाद आदि के माध्यम से विवास्थ्य को नए समाज क चुनौतियों का सामना करने में सक्षम बनाने का प्रयास किया जाएगा।

#### PROGRAMME SPECIFIC OUTCOMES

>बी. ए. प्रथम वर्ष प्रथम सेमेस्टर के हिंदी की काव्य के अंतर्गत भारतीय साहित्य परंपरा में हिंदी साहित्य के विभिन्न कालों के प्रतिनिधि कवियों का कविता के विषय में जानकारी देना तथा हिंदी का इतिहास का संक्षिप्त जानकारी देकर विवास्थ्य को हिंदी कविता के विकास में से अवगत कराना। >बी. ए. प्रथम वर्ष प्रथम सेमेस्टर के 'कायालयी हिंदी और कंप्यूटर' के अंतर्गत हिंदी के विवास्थ्य को कायालय के कार्य का मूलभूत जानकारी प्रदान करना ताकि वे कायालय के समस्त कार्य को सुगमतापूर्वक कर सकें एवं उद्योग कंप्यूटर का मूलभूत प्रदान देकर कंप्यूटर पर हिंदी मंचा कर रहे सक्षम बनाना ताकि वे समुचित रोजगार प्राप्त कर सकें। >बी. ए. प्रथम वर्ष प्रथम सेमेस्टर के 'हिंदी गं' के अंतर्गत विवास्थ्य को हिंदी गं का सभी विधा का सम्यक प्रदान देना तथा उद्योग हिंदी के प्रतिनिधि उपन्यासकार, कथाकार, नाटककार, एकांकीकार, चित्रकार एवं अर्थ गं विधा के लक्ष्य के महत्वपूर्ण उद्योग से परिचित कराना, ताकि विवास्थ्य इन सभी विधा से परिचित हो सकें और इस उद्योग में कठोर बनाने के इच्छुक विवास्थ्य को इस हेतु तैयार करना। >बी. ए. प्रथम वर्ष प्रथम सेमेस्टर के 'हिंदी अनुवाद' के अंतर्गत विवास्थ्य को हिंदी के साथ-साथ अंग्रेजी का संक्षिप्त जानकारी प्रदान करते हुए उद्योग विवास्थ्य के अंतर्गत वातावरण के साथ सामंजस्य स्थापित करने में सक्षम बनाना तथा भारतीय संस्कृति और साहित्य के वैदिक चार सार में सहायक बनाना और इस उद्योग में कठोर बनाने के इच्छुक विवास्थ्य को इस हेतु तैयार करना। >बी. ए. प्रथम वर्ष प्रथम सेमेस्टर के 'साहित्यशास्त्र और हिंदी आलोचना' के अंतर्गत विवास्थ्य को साहित्यशास्त्र एवं आलोचना के अर्थ, महत्व और विषय-उद्योग से परिचित कराना तथा उद्योग हिंदी आलोचना के रूप में भारतीय एवं प्राचीन काशास्त्र के आधुनिक विकास के विविध रूप और दशा का साक्ष्य प्रदान करना। >बी. ए. प्रथम वर्ष प्रथम सेमेस्टर के प्रथम सेमेस्टर के प्रथम सेमेस्टर के 'हिंदी का राष्ट्रीय काव्य' के अंतर्गत हिंदी साहित्य एवं सिनेमा का राष्ट्रीय काव्य से जुड़े कवियों का रचना के माध्यम से विवास्थ्य मंचा के प्रति अनुराग जात करना और उद्योग भारतीय संस्कृति का विशिष्टता और महानता के विविध रूप से अवगत कराना और इस उद्योग में कठोर बनाने के इच्छुक विवास्थ्य को इस हेतु तैयार करना।

## ii. ENGLISH

### Programme Outcomes (POs)

The programme aims to: • Develop an appreciation of English language, its connotations and interpret and appreciate the didactic purpose of literature • Take cognizance of the historical, social and cultural context of each literary work and thereby make connections between literature and society & appreciate literature's ability to stimulate feeling • Sensitize students to the aesthetic, cultural and social aspects of literature • Present an extensive view of the cultural and social patterns of the society in specific time and situations in which it flourished by covering all walks of human life- rational, irrational, carnal, and emotional • Make the students aware of literature written/translated

in English speaking countries like UK/ USA • Develop a more complex understanding of the history, literature, narrative techniques, drama techniques, kind of fiction and drama existing in Britain, America and India • Augment the understanding of fundamental tenets of classical literature • Develop an understanding of the various connotations of the term 'New Literatures' and the difference from other terms like Commonwealth Literature etc. • Develop an insight regarding the idea of world literature and the pertinent issues of feminism, racism and diasporic relocations • Provide job opportunities through 'skill-based' courses • Instil in students a new zeal and a new vision of life to make them a better citizen • Recreate a response through creative indulgences like script-writing, dialogue writing, and be able to exploit his/her creative potential through online media like blogging. • Engage students with various strategies of drafting and revising, style of writing and analytical skills, diagnosing and developing scholarly methodologies, use of language as a means of creative expression, will make them effective thinkers and communicators • Demonstrate comprehension of and listener response to aural and visual information • Comprehend and contextualise contemporary films adapted from literature, to describe objectively its importance and usefulness for the society while analysing its plot and characters

#### B.A. I [Certificate in English]

##### Programme Specific Outcomes (PSOs)

The learners will be able to: • Understand the growth of Indian literature in English and appraise the evolution of Indian culture from traditional to modern. • Develop an understanding of the basic poetic and prose devices to read, identify and analyse various literary forms of poetry and prose. • Understand the nuances of poetic language, structure and composition of idea in Indian English Prose. • Develop their critical thinking skills & comprehend life skills through the study of prose/short fiction & develop their own creativity by enhancing their writing skills. • Get enhanced/enriched vocabulary to demonstrate a significant modification in comprehensive skills and writing techniques. • Be acquainted with the representative poets and writers from 16th century to 20th century • Develop an understanding of the philosophy of Romanticism and how it was impacted by the revolutions in Europe. • Interpret the meaning of 'Victorian Compromise' and the 'Victorian paradox' and appraise the different aspects of the Age of Reason. • Be familiar with the rules and procedures of Practical Criticism. • Analyse in detail how a key individual event or idea is introduced, illustrated and elaborated in a text. • Develop knowledge of literary, cultural, and historical contexts of 20th & 21st century literature in English. • Be acquainted with the basic knowledge of Computer and general processing of various Microsoft applications. • Investigate and understand the role of computers in developing students' performance in English Language through computer assisted learning. • Frame official letters like preparing CVs, filing FIRs, RTI and complaints. • Create e-mails and navigate web browsers. • Get acquainted with the art of online writing

Course Code: - A040101T Course Title: English Prose and Writing Skills

##### Course Outcomes:

After completing this course, the students will be able to: • Understand Indian English Writing as a new form of Indian culture and voice in which India converses regularly. They will be able to understand contributions of various authors in the growth of Indian English Writing. • Understand

the formal qualities of a text, intricacies of structure, stylistics and figurative elements found in the text. • Analyse the difference in the prose techniques of different writers like Addison, Lamb and Bacon. • Make use of word choices, word order, figurative language and imagery to convey meaning/emotion. • Identify the writings of classic prose and short story writers like Chekhov, Maupassant and O' Henry. • Understand the prominence of logic and reason in the 18th century British literature

**Course Code: - A040201T Course Title: English Poetry**

**Course Outcomes:**

After completing this course, the students will be able to: • Understand the basic terminology and practical elements of poetry • Comprehend the meaning of words, phrases and sentences in a given context • Analyse the underlying meaning of a poem by using the elements of poetry • Identify the representative poets and writers of 16th, 17th, 18th and 19th and 20th century • Identify the devices used by the poet, the mood, the atmosphere, the voice, the stanzaic form, rhyme pattern and metre scheme • Examine the difference between Shakespearean and Miltonic sonnet forms • Comprehend the experimental poetry of Metaphysical age and the characteristics of Neoclassical poetry • Reflect on didactic human values as virtually mirrored in Thomas Gray's poem • Understand the concept of nature as stated by the romantic poets in literature • Appreciate the simplicity and lucidity of expression of poets in romantic literature • Understand the literary terms used by the Victorian poets • Analyse the existing conflict between faith and doubt in Victorian society • Discuss the significance of the literary period of the text by analysing the effects of the major events of that period

**B.A. II [Diploma in English]**

**Programme Specific Outcomes (PSOs)**

The learners will be able to: • Comprehend and learn to critically and aesthetically analyse works in British & American drama • Recognize the elements of drama and analysing and identifying the plot types, character analysis, thematic explanations and identifying the settings and understand the structure of a play and learn the dramatic devices used in writing a play • Analyse and evaluate different drama by discussing the significance of the literary age of the particular text and by analysing the effects of major events of that period • Understand the social and artistic movements that shaped the British and American drama and theatre • Comprehend the dramatic techniques to understand the development of drama in America • Understand the process of communicating and interpreting human experiences through literary representation using historical contexts and disciplinary methodologies. • Comprehend translation as a useful bridge between various linguistic regions • Understand the history and significance of translation, in Indian context • Recognize the nature and scope of translation • Help the students to recognize the distinct shift from Eurocentric literature to Indian literature in translation • Provide students a taste of diverse literary practices emanating from different regions and sections of India.

**Course Code: - A040301T Course Title: British and American Drama**

**Course Outcomes:**

After completing this course, the students will be able to: • Develop an understanding of various types of drama & related literary terms • Learn the core elements of structure such as exposition,

complication and resolution or denouement • Trace the origin and growth of drama in England and America • Comprehend the political, economic, social and intellectual background leading to the rise of drama in England and America • Analyse and appreciate the representative works of British and American Drama • Comprehend the general features of Shakespearean plays • Develop an interest in Shakespearean language, his use of images, supernatural elements, music and the word play • Demonstrate the ability to contextualize the works of American dramatists, interpret the thematic and stylistic elements of the plays and appreciate their literary worth, social relevance and timeless appeal • Comprehend the trends in modern drama through the study of poetic drama and problem plays

**Course Code: - A040401T Course Title: Indian Literature in Translation**

**Course Outcomes:**

After completing this course, the students will be able to: • Develop a comparative perspective to study the texts • Understand the history of translation and various forms of translations • Analyse the translation tools to make use of technology like computer and mobile in the process of translation • Attain accessibility to regional literary forms • Contextualize the texts of Jaishankar Prasad, Amrita Pritam, and Tagore in their respective social and cultural milieu • Develop an insight into the philosophy of Kabir through his verses • Gain a historical vision of the partition trauma and the contemporary issues of the tribal people through the writings of Bhisham Sahni and Mahasweta Devi • Develop an insight about Indian familial conflicts and social evils • Enhance job opportunities by fostering translation skills • Understand Indian consciousness and review the past through translated text

**B.A. III [B.A. in English]**

**Programme Specific Outcomes (PSOs)**

The learners will be able to: • Comprehend and analyse how English literature has evolved through centuries establishing a perception of its literary history in chronological order • Develop an appreciation for the western classical literature. • Generate awareness towards the problems of interpreting Indian Culture via the English Language and acquaintance with the work of significant Indian writers of Poetry, Prose, Fiction and Drama • Develop an acquaintance with the works, themes, styles and sensibilities of the writers from Europe, North and South America, Canada, and Africa • Recognise the evolution of certain thematic trends reflected in the narrative and linguistic experimentation of the writers of 'New Literatures' • Appraise the emergence of female narratives in art and literature • Understand distinctive features of novels, shorter fiction and essays and relate the texts and contexts to real life • Get a holistic idea of the distinctive features of Indian fiction Writing in English • Develop a comprehensive knowledge of the British and Indian fiction through the works of different representative writers of different ages and do a comparative study into classics as well as Popular fiction in contemporary

**Course Code: - A040501T Course Title: Classical Literature & History of English Literature**

**Course Outcomes:**

After completing this course, the students will be able to: • Develop an understanding of the historical background of Greek and Roman literature and history • Recognise the great works of unparalleled classical writers like Plato, Homer and Sophocles • Develop an understanding of the



evolution of English Literature, the concept, causes and impact of Renaissance and Reformation • Trace the origin and development of English drama through Miracle and Morality plays and the plays of University Wits • Develop an acquaintance with major religious, political and social movements from 15th to 20th century and their influence on English literature • Comprehend the basic difference and special characteristics of the major literary tendencies of various ages and develop familiarity with major literary works by British writers in the field of Poetry, Drama and Fiction • Understand the characteristics of Elizabethan and Metaphysical poetry and special features of Neo-classical age and its literature • Identify the reasons of the emergence of prose and novels and the decline of drama in England in the 18th century • Comprehend the role of French Revolution in the evolution of romanticism in English literature • Interpret the characteristics of Victorian age and the growth of literature in the age • Appreciate the special characteristics of the poetry of Pre-Raphaelites and Naughty Nineties • Comprehend the trends in the poetry, drama and fiction of 20th century English literature

**Course Code: - A040502T Course Title: Fiction**

**Course Outcomes:**

After completing this course, the students will be able to: • Develop an understanding of the growth of novel form and its various types • Enhance their reading skills and understand how to represent their experience and ideas critically, creatively, and persuasively through the medium of English language • Get acquainted with different cultures, myths and social conservation through the reading of selected novels of Britain, America and India • Learn human values and behavioural pattern from the prescribed novels and develop an understanding of the human race • Exposed to the unflattering portrayal of the contemporary Indian society through popular works of Indian fiction writers in English

**Course Code: - A040601T Course Title: Indian & New Literatures in English**

**Course Outcomes:**

After completing this course, the students will be able to: • Develop an understanding of the Indian freedom struggle, the contemporary political, social and economic scenario and the also the trauma of the partition • Develop an understanding of the themes, styles and poetic sensibilities of poets like Toru Dutt, Nissim Ezekiel, Jayant Mahapatra and Keki N. Daruwala • Critically analyse the drama as a medium of exploration of existing social issues and prejudices through the work of dramatists like Mahesh Dattani and Asif Currimbhoy • Understand the socio-cultural-political conditions of the contemporary India as explored in the fiction of writers like Kamala Markandaya • Analyse and evaluate the difference in the theme and background of the works of Indian writers in English and the English writers already studied in the previous years • Demonstrate, through discussion and writing, an understanding of significant cultural and societal issues presented in Indian English literature Familiarize themselves with the similar (yet different) socio-historic conditions reflected in the literature of the various colonies • Comprehend how 'New Literatures' incorporates very different literary products, each with its own cultural, social and geographical specificity • Comprehend and analyse the poetic discourses of poets like Pablo Neruda, Margaret Atwood, Judith Wright, Patrick White and Sujata Bhatt and the variations in their themes, styles and responsiveness • Address the identity issues and marginalization through a study of the works of Indira Goswami and Naipaul

**Course Code: - A040602T Course Title: Literature in Films & Media Studies**

**Course Outcomes:**

After completing this course, the students will be able to: • Develop an understanding of the technical terminology associated with film and media studies • Interpret films as text and evaluate them critically • Appraise the process of adaption of texts into films • Recognize the nuances of film narration • Assess various film genres and their characteristics • Appreciate the works of prescribed writers and the directors as well who directed their adaptations • Exercise critical viewing and develop reading skills in determining the success of adaptations and present their assessments through a variety of mediums including presentations and essays

**Course Code: - A040603T Course Title: Media and Journalistic Writing**

**Course Outcomes:**

After completing this course, the students will be able to: • Understand different types of journalism and their importance. • Comprehend various principles of mass communication. • Differentiate between various forms of media & journalistic writing and reporting. • Understand the meaning and nature of public speaking. • Identify social media norms and online journalism. • Write in various journalistic formats effectively. • Understand the meaning and nature of public speaking. • Edit reports and create engaging advertisements.

**SUBJECT: SANSKRIT**

**Programme Outcomes ( POs)**

• शिद्याशथाय ढेक लेखन, िाचन ँिं अधयन की दृशि सेभाषागि दक्षा प्राि ह गी । • सहज ँिंस्वाभाशिक रूप सेभाषागि पारोंगिा प्राि कर उनमेंप्रभाििाली अशभव्यप्तक्त की क्षमिा उत्पन्न ह गी । • आत्मशिश्वास सेयुक्त ँिंनेिृत क्षमिा के धारक ह ढेगे । • नैशिक ँिं चाररशिक दृशि सेमूल्यिान व्यप्तक्तत्वधारी ह कर भारीयिा के ब ध के साथ िैशश्वक नागररक के रूप मेंभािी चुनौशिय ढेका सामना करनेमेंसक्षम ह ढेगे ।

**Programme Specific Outcomes ( PSOs)**

• सिाशधक िैज्ञाशनक भाषा के रूप मेंसौस्कृ ि भाषा के प्राचीन महत्व ँिं उसकी ििामान प्रासोंशगकिा क जानने-समझनेय ग्य ह ढेगे । • सौस्कृ ि साशहत्य की शिशभन्न शिधाओं(गद्य, पद्य, नाटक, व्याकरण इत्याशद) सेसुपररशचि ह कर सौस्कृ ि ममाज्ञ बन सकें गे । • सौस्कृ ि व्याकरण के शिशभन्न अढेग ढेके ज्ञान िारा भाषा के िुद्ध अधयन, लेखन ँिं उच्चारण माध्यम सेअशभव्यप्तक्त कौिल का शिकास ह गा । • आयुिेद, िास्तुिास्त, ज्य शिष, शनत्यनैशमशतक कमाकोंड इत्याशद के माध्यम सेजीशिक पाजान के य ग्य बनेंगे । • िैशदक ँिं लौशकक सौस्कृ ि साशहत्य की समृद्धिा ँिं ििशिशहि नैशिकिा ि आध्याप्तत्मकिा क अनुभूि कर भारीय सौस्कृ शि के महत्व क िैशश्वक स्तर िक पहोंचानेमेंसक्षम ह ढेगे । • धमा-दिान, आचार-व्यिहार, नीशि िास्त्र ँिं भारीय सौस्कृ शि के मूल ित्व ढेक जानकर उत्तम चररििान मानि ँिं कु िल नागररक बनेंगे । • समसामशयक समस्याओंके समाधान के रूप मेंसौस्कृ ि साशहत्य मेंशनबद्ध सिांगीणिा के प्रशि ि धपरक दृशि का शिकास ह गा ।

**प्रश्र पत्र कोड-A020101T प्रश्र पत्र शीर्यक- सौस्कृ ि पद्य साशहत्य ँिंव्याकरण**

**Course outcomes:**

अविर्म उपलब्धि- • शिद्याथी सौस्कृ ि साशहत्य का सामान्य पररचय प्राि कर काव्य के शिशभन्न भेद ढेसेपररशचि ह सकें गे । • िह सौस्कृ ि पद्य साशहत्य की सुगीिात्मकिा का सौंदयाब ध कर सकें गे । •

उनमेंकाव्य मेंप्रयुक्त रस,छों द,अलोंकार ोंक समझनेकी क्षमिा शिकशसि ह गी । • पद्य मेंशनशहि सूक्तय ोंंएिं सुभाशषि िाक् ोंंके माध्यम सेउनके नैशिक एिं चाररशिक उन्नयन ह गा । • शिद्याशथाय ोंंके िब्दक ि मेंिृप्तद्ध ह नेके साथ-साथ िह सोंस्कृ ि श्ल क ोंंके िुद्ध और सस्वर उच्चारण के कौिल मेंशनपुण बनेगे । • सोंस्कृ ि व्याकरण का सामान्य ज्ञान प्राि कर उसकी िैज्ञाशनकिा सेसुपररशचि ह सकें गे । • सोंस्कृ ि िणों के िुद्ध उच्चारण कौिल का शिकास ह गा । • स्वर एिंव्योजन के मूल भेद क समझ कर पृथक अथािगमन की क्षमिा उत्पन्न ह गी । • स्वर,व्योजन एिं शिसगासोंशध का शिशिि ज्ञान एिं उनके अनुप्रय ग का कौिल शिकशसि ह गा ।

**प्रश्न पत्र कोड-A020201T प्रश्न पत्र शीर्यक- सोंस्कृ ि गद्य साशहत्य,अनुिाद एिंसोंगणक अनुप्रय ग**

**Course outcomes:**

अशधगम उपलप्तब्ध- • शिद्याथी सोंस्कृ ि गद्य साशहत्य का सामान्य ज्ञान प्राि कर, गद्य काव्य के भेद ोंंसुपररशचि ह सकें गे । • सोंबोंशधि साशहत्य के माध्यम सेउनका नैशिक एिं चाररशिक उत्कषाह गा । • रािरिभक्त की भािना प्रबल ह गी िथा उत्तम नागररक बनेगे । • अनुिाद कौिल मेंिृप्तद्ध ह गी । • सोंस्कृ ि गद्य के धाराप्रािह एिं िुद्ध िाचन का कौिल शिकशसि ह गा । • शिद्याथी सोंगणक का सामान्य ज्ञान प्राि कर, अशधगम क्षमिा मेंिृप्तद्ध हेिुइसका उपय ग कर सकनेमेंसक्षम ह ोंगे । • E-content एिं शडशजटल लाइब्रेरी का उपभ ग कर पानेमेंसमथाह ोंगे । • सोंस्कृ ि भाषा और साशहत्य के शनि-नूिन अन्वेषण क ख ज पानेिथा उससेस्व-ज्ञान क ष मेंिृप्तद्ध कर पानेय ग्य ह ोंगे । • सोंगणक के प्रय ग के माध्यम सेसोंस्कृ ि ज्ञान के प्रचार प्रसार एिंआदान-प्रदान करनेमेंकु िल बनेगे । • पारोंपररक एिंिैशश्वक ज्ञान मेंसामोंजस्य बनाकर ज्ञान की अशभ्रिप्तद्ध करनेएिं जीशिक पाजान के नए मागाख जनेका कौिल शिकशसि ह गा ।

**प्रश्न पत्र कोड-A020301T प्रश्न पत्र शीर्यक- सोंस्कृ ि नाटक एिंव्याकरण**

**Course outcomes:**

अशधगम उपलप्तब्ध- • सोंस्कृ ि नाट्य साशहत्य क सामान्य रूप सेसमझ सकनेमेंसक्षम ह ोंगे । • नाटक की पाररभाशषक िब्दािली सेसुपररशचि ह ोंगे । • नाटक मेंप्रयुक्त रस, छों द एिं अलोंकार ोंंका सम्यक ब ध कर सकें गे । • सोंिाद एिं अशभनय कौिल मेंपारोंगि ह ोंगे । • नीन पद ोंंके ज्ञान िारा उनके िब्दक ि मेंिृप्तद्ध ह गी । • भारीय सोंस्कृ शिक ित्व ोंंएिं मूल्य ोंंके आत्मसाि कर, भारीया के गाब ध सेयुक्त उत्तम नागररक बनेगे । • व्याकरण परक िब्द ोंंकी शसप्तद्ध प्रशक्रया सेपररशचि ह सकें गे । • व्याकरण िास्त्र के ज्ञान के माध्यम सेिुद्ध िाक् शिन्यास कौिल का शिकास ह सके गा

**प्रश्न पत्र कोड-A020401T प्रश्न पत्र शीर्यक- काव्यास्त्र एिंसोंस्कृ ि लेखन कौिल**

**Course outcomes: अशधगम उपलप्तब्ध-**

• शिद्याथी काव्यास्त्र के उद्भि और शिकास सेसुपररशचि ह कर काव्य िास्त्रीय ित्व ोंंके समझनेमेंसक्षम ह ोंगे । • छों द भेद एिं उनके शनयम ोंंके समझनेमेंसमथाह ोंगे । • सोंस्कृ ि अलोंकार ोंंके ज्ञान के माध्यम सेकाव्य के सोंदयाका ब ध कर सकें गे । • किनािीला एिं रचनात्मक क्षमिा का शिकास ह गा

**SUBJECT: URDU**

**FACULTY OF PERFORMING ARTS**

**B.A. in Music Vocal**

**Program Outcomes (POs) :**

This course provides the basic ideas and concepts of Music Vocal, through this programme students will get knowledge about Indian Classical music. The course intends to orient the learner with the approaches to the discipline of Music Vocal. Through this course, the students will get to know the different Ragas, Taals, basic science of Indian Music, notation system of Indian and Western Music, History of Indian Music, origin and development of Gharana tradition, study of regional music, styles of Ravindra Sangeet and carnatic Sangeet along with the biographies of some distinguish artist and scholars of Indian Music. Students will also get acquainted with the musical stage performance. Through its curriculum, students will get acquainted with the authentic aspects of historical facts and gain knowledge of the glory of Indian Music. Students will be motivated to contribute towards nation building by making them aware of the Indian music and culture. This course will provide a medium for students to develop an attitude of research. This curriculum will not only provide a bridge of performance ability to the students but also provide them employment opportunities

#### **B.A. First Year : Certificate in Music Vocal**

##### **Program Specific Outcomes (PSOs):**

At the end of program following outcomes are expected from students: 1. Learn about the fundamental aspects of Indian Music. 2. Learn about the historical development of Indian Music and cultural development of India. 3. Students will be able to get acquainted with various Ragas and different Taals. They will be able to get acquainted with other genres beside classical and will also be able to perform. 4. May have capabilities to start earning by enhancing their skills in the field of Music vocal and Indian Music.

#### **B.A. Second Year : Diploma in Music Vocal**

##### **Program Specific Outcomes (PSOs):**

At the end of program following outcomes are expected from students: 1. Learn about the Indian Scholars of Ancient, Medieval and Modern period. 2. Built knowledge about notation system and Scales. 3. Student will be able to get acquainted with various new Ragas and Taals. They will be able to perform Classical and other Light and Folk music styles. 4. May have capabilities to start earning by enhancing their skills in the field of composer, music writer and as performer.

#### **B.A. Third Year : Bachelor Degree in Music-Vocal**

##### **Program Specific Outcomes (PSOs):**

At the end of program following outcomes are expected from students: 1. Learn about the western music and styles of Vocal music. 2. Built knowledge about regional music Rabindra music and South Indian music. 3. Students will be able to get acquainted with various new Ragas, Taals and styles. They will be able to perform classical music as well as semi-classical, Light and Folk music. 4. May have capabilities to start earning by enhancing their skills in the field of performer, composer, music critic and as music teacher in Government and non-government sector

## POST GRADUATE PROGRAMMES

### **PROGRAM NAME: M.Sc. Zoology**

#### **Program Outcome:**

After studying M.Sc. in Zoology Program, the students will acquire a deeper understanding of:

- Animal biodiversity and the basic features of their distribution through different taxonomic categories.
- The architecture and structure of living beings at morphological, anatomical, histological and cellular levels.
- The mechanism of the functioning of life at physiological, biochemical, genetic and molecular levels.
- The mechanism and patterns of embryonic development of animals.
- The applied aspects of the subject, like Fisheries, Entomology or cytological techniques.

#### M.Sc I Semester

#### **Course Name: (Paper I) – Comparative study of Lower non-chordates (Credits 4)**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn an idea about certain specific features of different animals of lower non-chordate phyla:  
Protozoa - Aschelminthes
2. Understand the evolutionary aspects of animals through the growing hierarchy of phyla.
3. Appreciate the significance of lower non-chordates in the economy and health issues of people.

#### **Course name: (Paper II) - Biostatistics, Biosystematics and Bioinstrumentation (Credits 4)**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn the basics of biostatistics and biosystematics.
2. Understand certain biological techniques and microscopy.
3. Learn the applications of tools and techniques in biological studies.

#### **Course name: (Paper III) Environmental Biology and Bioinformatics (Credits 4)**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn an idea about the basics of ecology such as population and their interaction.
2. Understand ecosystems and their features,
3. Know the effects of environmental pollutions and significance of biodiversity.

**Course name: Paper IV – Biochemistry (Credits 4)**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn the concept of thermodynamics.
2. Understand the working of Enzymes, and metabolism of certain biomolecules such as carbohydrates, lipids and vitamins.
3. Students will also understand the basics of cancer biology and aging.

**M.Sc II Semester**

**Course name and code: (Paper I): Comparative Study of Higher Non-chordates Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn a comparative understanding about certain phylum-specific features among different animals of higher non-chordate phyla.
2. Understand the evolutionary aspects of higher non-chordates through the growing hierarchy of phyla.
3. Appreciate the significance of higher non-chordates in the economy and health issues of people.

**Course name: (Paper II) Animal Physiology Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn about the physiology of digestion, excretion and circulation.
2. Understand the nervous system and neuronal conduction and physiology of muscle contraction.
3. Additionally, this paper will also help students to understand the basics of immunity, antigens and antibody.

**Course name: (Paper III) Cytology and Genetics (Credits 4)**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn about structure and genomic architecture of different types of virus and bacteria,
2. Understand the animal cells and cell cycles.
3. Additionally, students will get a detailed idea about the basics of genetics and mutations.

**Course name: (Paper IV), Molecular Biology Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Understand how gene functions and protein products are sorted during translation.
2. Learn about regulation of gene expression.
3. Moreover, students will also learn various signaling pathways and receptors.

**III Semester**

**Course name: (Paper I) Comparative Study of Proto-chordates and Lower Vertebrates (Protochordates, Fish, Amphibia) Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn the diverse classes of animals have adapted various ways according to their habitats and forms.
2. Understand the comparative physiological and anatomical aspects of lower vertebrates.
3. Analyze and evaluate the modifications/adaptations found in different physiological and anatomical systems of various organisms of class Protochordates, Fish, Amphibia.

**Course name: (Paper II) Developmental Biology Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn the various patterns and processes of embryonic development in different animal groups.
2. Understand the fundamental processes that underpin the fertilization of an egg cell and its step-by-step transformation into the fascinating complexity of a whole organism.
3. Analyze the correlation between evolutionary development of organisms with their embryonic development.

**Course name: (Paper III) Endocrinology (Credits 4)**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn a deep understanding of endocrine physiology.
2. Understand various functions and regulatory roles of different hormones.
3. Analyze the role of hormones in homeostasis of body physiology.

**Course name: (Paper III) Endocrinology (Credits 4)**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn a deep understanding of endocrine physiology.
2. Understand various functions and regulatory roles of different hormones.
3. Analyze the role of hormones in homeostasis of body physiology.

**Course name: (Paper IVA) Taxonomy & Morphology of Fishes, Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn about diversity of fishes.
2. Understand their identification and biology.
3. Learn the commercial and industrial significance of fisheries science.

## **IV Semester**

**Course name: (Paper I) Comparative Study of Higher Vertebrates (Reptiles, Birds and Mammals) Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn the diversity of higher vertebrates.
2. Understand the various ways of their adaptation according their habitats and forms.

3. Analyze the comparative physiological and anatomical aspects of lower vertebrates.
4. Understand the modifications/adaptations found in different physiological and anatomical systems of various organisms of the classes- Reptiles, Birds and Mammals.

**Course name: (Paper II) Animal Behaviour Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn various aspects of behaviour of animals.
2. Understand how the behaviour of animals permits flexibility that allows them to respond rapidly to environmental changes.
3. Analyze the theories and evidences for a broad range of behavioural aspects of animals.

**Course name: Paper III, Applied Ichthyology and Development of Fish Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Gain a detailed knowledge of Applied Ichthyology.
2. Understand various techniques of fish farming.
3. Learn about the industrial applications of ichthyology.
4. Learn the maintenance of fish farm, fish preservation and storage etc.

**Course name: Paper IV, Fish Physiology and Fish Ecology Credits 4**

**Course Outcomes:** After studying this course, the students will be able to-

1. Learn two important aspects of fish farming: Fish Physiology and Fish ecology.
2. Understand that the alterations in these conditions may lead to devastating effects on fish farming.
3. Analyze and evaluate certain pathological threats to fish industry.