



## 1. M.Sc., Botany

### Program Outcome-

At the completion of the Programme, students will be equipped with good scientific acumen, creativity and eagerness to protect environment and to carry out researches, teaching and other similar jobs.

### SEMESTER I

#### MBOCC-1: Phycology, Mycology, and Bryology

##### Course Objectives:

On successful completion of this course, students will be able to know about the-

1. Thallus organisation of algae, fungi and bryophytes, and their salient features.
  - 2: Different kinds of algal, fungal, lichen and bryophyte diversity and their economic implication.
- The course has importance in the areas of academics and research.

#### MBOCC-2: Microbiology and Pathology

##### Course Objectives:

Students will learn-

1. Methods in microbiology, develop theoretical and technical skills of basic microbiology (sterilize, isolate, culture, preserve microbes), the structure of bacteria and viruses.
2. The diversity of micro-organisms, their classification, structure and growth.
3. Applied aspects of microbial diversity in various fields e.g.: pharmaceuticals, agriculture etc.
4. Ways and means of combating plant diseases so as to minimize economic loss. The course has importance in the areas of academics, research, and employability.

#### MBOCC-3: Pteridophyta, Gymnosperm & Palaeobotany

##### Course Objectives:

Students will get in-depth knowledge of-

1. The plant diversity (esp. In pteridophytes, and gymnosperms) and understanding the evolutionary trends through the study of palaeobotany.
2. The evolutionary diversification of early land plants and morphological and reproductive innovations in pteridophytes and gymnosperms. The course has importance in the areas of academics and research.

#### MBOCC-4: Practical

##### Course Objectives:

Students will learn and perform practical on-

1. Use of sterilization instruments, media preparation.
2. Isolation and study of microorganisms.



3. Study of common fungal diseases, vegetative habits, anatomy and reproductive morphology of common pteridophytes and gymnosperms. The course has importance in the areas of academics, research, and employability.

#### M.A. SEMESTER II

##### MBOCC-5: Biofertilizer Technology

###### Course Objectives:

On successful completion of this course, students will be able to know about the-

1. Biofertilizers and their use.
2. Isolation, identification, purification, mass production of microorganisms used in biofertilizers, and also on quality control of commercial biofertilizers.
3. Biofertilizers' applied aspects for the enhancement of soil fertility and crop productivity and ideal way for sustainable development.

The course has importance in the areas of academics, research, and employability.

##### MBOCC-6: Taxonomy, Anatomy & Embryology

###### Course Objectives:

Students will get in-depth knowledge of-

1. Classifications and interaction between taxonomy, anatomy & embryology.
2. Different methods of naming plants, different principles of nomenclature etc.
3. Phylogeny and phylogenetic systematic, methods used in molecular systematic studies.
4. Embryology, and its role in taxonomy.

##### MBOCC-7: Physiology & Biochemistry

###### Course Objectives:

Students will learn-

1. The mechanism of osmotic relations, metabolism, growth and morphogenesis.
2. Energy transduction mechanism and biochemical energetics in plants.
3. Enzymes, their structure, role and properties.

The course has importance in the areas of academics and research.

##### MBOCC-8: Plant tissue culture, ethnobotany, biodiversity & biometry

###### Course Objectives:

After completing the course, students will get to know about-

1. Ways of conservation and propagation of economically important and endangered plants.
2. Biodiversity, their types, patterns, loss, conservation and its importance.
3. Biometric tools like measurement of variability and test of significance of data etc.
4. Cell and tissue culture, ethnopharmacology, and ethnoecology. The course has importance in the

areas of academics, employability and research.

##### MBOCC-9: Practical

###### Course Objectives:

Students will get practical knowledge on-

1. Preparation of culture media, explant culture and callus initiation.
2. Family description of some locally available plants and their taxonomic classification.



3. Physiological studies like determination of water potential, estimation of protein, paper chromatography etc.

4. Staining and study of xylem, phloem and pollen etc.

The course has importance in the areas of academics, research, and employability.

### SEMESTER III

#### MBOCC-10: Cell Biology & Cytogenetics

Course Objectives:

Students will learn-

1. Cell theory, ultrastructure and chemical composition of the cell.
2. Cell cycle, apoptosis, and its control mechanism.
3. Concepts of Mendelian genetics, sex determination and extranuclear inheritance.
4. Basics of microscopy and micro-densitometry.

The course has importance in the areas of academics, research, and employability.

#### MBOCC-11: Molecular Biology

Course Objectives:

On successful completion of the course, students will learn-

1. The structure and function of the protein and nucleic acid, DNA organization and its packaging.
2. Principle mechanisms of genome replication, maintenance, function and regulation of expression.

The course has importance in the areas of academics, research, and employability.

#### MBOCC-12: Recombinant DNA Technology

Course Objectives:

Students will learn-

1. Manipulating DNA molecules to produce genetic combinations which are of value to science, medicine & various industries.
2. DNA technology, cloning vectors, passenger DNA, methods of DNA transfer, DNA fingerprinting, IPR etc.

The course has importance in the areas of academics, research, and employability.

#### MBOCC-13: Plant Ecology and Environmental Biology

Course Objectives:

Students will have knowledge about-

1. Organism and population concept, interactions among populations.
2. Community structure and community dynamics.
3. Concept of ecosystem, ecosystem energetic, environmental pollution.
4. Importance of environmental awareness.

The course has importance in the areas of academics, research, and employability.

#### MBOCC-14: Practical

Course Objectives:

Students will gain practical knowledge on-

1. Modern instruments used in botany, cytological techniques.
2. Karyotype analysis.
3. Basic recombinant DNA technology, DNA amplification.



4. Electrophoresis, spectroscopy, centrifugation, isolation of microorganisms etc.
5. Ecological adaptations.

The course has importance in the areas of academics, research, and employability

#### SEMESTER IV

##### MBOCC-14: Optional I

MBOTEC-1 Cytogenetics and Crop improvement

MBOTEC-2 Practical based on MBOTEC-1

Course Objectives:

Students will gain advanced knowledge on-

1. Haploidy, aneuploidy, polyploidy, chromosome banding pattern.
2. Mutations, transposons, epigenetics, epigenomics, human genetic diseases.
3. Traditional and modern methods of crop improvement and plant breeding.

The course has importance in the areas of academics, research, and employability.

MBOTEC-1 Applied Microbiology and Plant Pathology

MBOTEC-2 Practical based on MBOTEC-1

Course Objectives:

Students will have in depth knowledge of-

1. Industrial application of microbial diversity, study of causal organism of plant pathogens and their control.
2. Fermentation technology, plant pathology etc.
3. Solid waste treatment, composting and land filling.
4. Wastewater treatment, bioremediation, biogas production.

The course has importance in the areas of academics, research, and employability.

MBOTEC-2 Project Dissertation

Course Objectives:

Students should be able to learn how to select and defend a topic of their research, how to effectively plan, execute, evaluate and discuss their experiments. The students are exposed to cutting-edge technologies to achieve a solution and learn to process scientific data using biostatistics. Students should be able to demonstrate considerable improvement in the following areas –

- In-depth knowledge of the chosen area of research.
- Capability to critically and systematically integrate knowledge to identify the issues that must be addressed within the framework of the specific thesis.
- Competence in research design and planning.
- Capability to create, analyze and critically evaluate different technical solutions.
- Ability to conduct research independently.
- Ability to perform analytical techniques/experimental methods.
- Project management skills.
- Report writing skills.
- Problem-solving skills.
- Communication and interpersonal skills.

The course has importance in the areas of academic, research and employability.



Generic Elective (GE) Course

Course Title: GE: 1. Graphic Designing

Course Objectives:

Students should be able to learn Programming languages as HTML.5 and CSS3, PHP Programming and MySQL, Java script etc.

Course Title: GE: 1. Inclusive Policies

Course Objectives:

Students will be able to understand the concept of Inclusive Policies, Right of Individuals and its Redressal as well as Human Right.

Course Title: GE: 1. Human Rights

Course Objectives:

Students will be able to know Evolution of the Concept of Human Rights, diversity, and multiculturalism, theoretical and conceptual aspects of Human Rights.

Course Title: GE: 1. Family Management

Course Objectives:

Students will be able to learn housekeeping and understand the importance of communication and care in family.

Course offered in SEMESTER II

Ability Enhancement Course (AEC)/ Skill Enhancement Course (SEC)

Course Title: Computers & ICT

Course Objectives:

Student will acquire the basics knowledge of computer system, operating system and networks.

Course Title: Web Designing

Course Objectives:

To expose students to the technology of web site design and to introduce various tools and languages required for dynamics and creative design of state-of-the-art web sites.

Course Title: Derivatives and Risk Management

Course Objectives:

1. To develop skills among the students who are planning to pursue their career to finance and banking sectors.
2. To develop knowledge among the students to enable them to take decision under the most difficult situation led by uncertainties in competitive business world.

Course Title: Solid Waste Management

Course Objectives:

1. Understanding the problem of municipal waste, biomedical waste, e-waste, industrial waste etc.
2. Become aware of Environmental and health impacts of social waste management.



Course Title: Mushroom Technology

Course Objectives:

1. Cultivation methods for edible varieties of Mushroom.
2. Presentation methods for Mushroom fruiting body as well as its spore and mycelium.
3. Awareness of health benefits of mushroom consumption.

Course Title: Biofertilizer Technology

Course Objectives:

1. Structure of characteristic features of different microorganism used as biofertilizers.
2. Cultivation methods for different types of biofertilizers.
3. Awareness of environmental and agricultural benefits of biofertilizers.

Course Title: Environmental Law and Policy

Course Objectives:

1. To provide an overview of law and policies relating to environment both as the national and international level.
2. To critically analyse the implementation of these laws and the role of adjudicatory bodies in the field of environment.

Course Title: Tourism and Hospitality Management

Course Objectives:

1. The aim of this course is to provide elementary knowledge of tourism industry including transportation, hotel, destination and future scopes.

Course Title: Life and Communication Skill Development

Course Objectives:

1. To develop communication skill of students.
2. To develop writing skill of students.
3. To develop expertise in abilities of ICT in the transmission of knowledge.



## 2. M.Sc., Chemistry

### Program Outcome-

At the completion of the course students will have in depth studies of chemical phenomena, recent trends in chemistry with teaching ability, capability to do research and to be employed in industries.

### SEMESTER I

#### MSCCHE CC-1 Inorganic Chemistry-1

##### Course Outcomes:

On completion of the course, students should be able to:

1. Appreciate the different theories of chemical bonding and be able to apply these theories to solve structures.
2. Be able to apply IR spectroscopy to discuss structures of pi acceptor containing complexes
3. Choose an appropriate solvent for carrying out any chemical reaction based on the principles of acids and bases.
4. Correctly write the structures of heteropoly, isopoly anions and metal carbonyl clusters and relate the structure to chemical reactivity.
5. Understand the three dimensional structure of silicates and catalytically important molecules such as aluminosilicates (zeolites) and apply their knowledge towards selectivity based on structure.
6. Write the structure of non-metallic compounds and classify boranes based on STYX.

#### MSCCHE CC-2 Physical Chemistry-1

##### Course Outcomes:

On completion of the course, students should be able to:

1. Account for the physical interpretation of partition functions and be able to calculate thermodynamic properties of model systems with using Boltzmann -, Fermi-Dirac and Bose-Einstein statistics.
2. Account for the physical interpretation of distribution functions and discuss and show how these can be used in calculations of basic thermodynamic properties.
3. Use kinetic data to check the viability of a mechanism.
4. Recall and explain why certain factors such as concentration, temperature, medium and the presence of a catalyst will affect the speed of a chemical reaction.
5. Understand the concept of activation energy and its calculation from kinetic data
6. Define and explain surface and interfacial phenomenon.

#### MSCCHE CC-3 Organic Chemistry-1

##### Course Outcomes:



On completion of the course, the student should be able to:

1. Apply the concepts of bonding, resonance, aromaticity, hyperconjugation and tautomerism to higher organic compounds.
2. Predict the products, identify reaction intermediates and propose suitable mechanism for organic reactions.
3. Identify stereogenic centres, recognize enantiomers, diastereomers, meso compounds, draw stereochemical structures, and provide R/S designations of stereocenters.
4. Draw stable conformations for substituted cyclic compounds, fused and bridged rings.
5. Use of various oxidizing and reducing reagents for application in organic transformations of industrially and pharmaceutically important organic compounds.
6. Understand the host-guest interactions in molecular receptors.

MSCCHE CC-4 Physical Chemistry

Course Outcomes:

On completion of the course, students should be able to:

1. Devise and carry out an experiment to study the kinetics of a reaction.
2. Interpret the experimental data in terms of a rate equation.
3. Plot data in two dimensions
4. Learn to work in teams
5. To plot phase diagram of two/three component systems and interpret them.
6. Communicate the results of the experiment in a written and oral form.

## SEMESTER II

MSCCHE CC-5 Advances in Chemistry

Course Outcomes:

On completion of the course, students should be able to:

1. To study about nuclear chemistry and radiation chemistry.
2. To know the applications of radioactive isotopes.
3. Understand the classification of nanostructured materials.
4. Students will learn the structure, properties and the synthesis of solid materials. More significantly, crystal defects, electronic properties of solid can be easily explained.

MSCCHE CC-6 Inorganic Chemistry II

Course Outcomes:

On completion of the course, the student should be able to:

1. Understand and apply the principles of stability of complexes in synthesis of new molecules.
2. Relate the structure of complexes to their properties.
3. Use electronic spectroscopy as an analytical tool in the structural elucidation of complexes.
4. Interpret the magnetic properties of transition metal complexes based on magnetic measurements.

MSCCHE CC-7 Physical Chemistry II

Course Outcomes:





On completion of the course, students should be able to:

1. Show an understanding of wave mechanics in three dimensions.
2. Describe the structure of the hydrogen atom and show an understanding of quantisation of angular momentum.
3. Apply variational method, time independent perturbation theory and time dependent perturbation theory to solve simple problems.
4. Describe the difference between kinetically and mass transport controlled electrochemical processes.
5. Explain fundamental aspects of electrochemical reaction in terms of thermodynamics, kinetics and mass transport.
6. Explain the structure of electric double layer at the interface and its role on electrode reactions.

### MSCCHE CC-8 Organic Chemistry II

Course Outcomes:

On completion of the course, the student should be able to:

1. Explain the mechanistic pathway for aliphatic substitutions and free radical reactions with stereochemistry.
2. Describe and explain photochemical and photophysical processes with mechanisms, and apply established experimental methods for the investigation of these processes.
3. Predict and rationalise the outcomes of pericyclic reactions with stereochemistry.

### MSCCHE CC-9(Practical) Organic Chemistry II

Course Outcomes:

On completion of the course, students should be able to:

1. Carryout effective separation of mixture of organic compounds.
2. Determine the functional group of the unknown compounds by systematic analysis in a semi-micro scale.
3. Design and carry out experiments, accurately record and analyze the results of such experiments.

## SEMESTER III

### MSCCHE CC-10 Applications of Spectroscopy

Course Outcomes:

On completion of the course, the student should be able to:

1. Combine information from experimental NMR, IR, UV, and MS spectra and elucidate the structure of unknown organic compounds.
2. Argue for a suggested molecular structure from analysis of the spectral data.
3. Predict the PMR, IR, UV-Vis and MS spectra from a given molecular structure.

### MSCCHE CC-11 Bio-Inorganic Chemistry

Course Outcomes:

At the end of the course, the students would be able to:



1. Explain about cells and their structure and functions overview of metabolic processes– catabolism and anabolism. ATP– the biological energy currency.

MSCCHE CC-12 Environmental Chemistry and Green Chemistry

Course Outcomes:

At the end of the course, the student will be able

1. To know the basic idea on techniques of water analysis and acidity alkalinity.
2. To get experience with the calculations of BOD and COD.
3. To understand the basics of soil analysis viz. pH, Conductivity.
4. To have an experience on the determination of heavy metals in soil.
5. To get knowledge on green reaction conditions and their impact on environment.
6. To know about use of different biocatalysts as environmentally friendly reagents.
7. To acquire knowledge on the use of modern techniques like ultrasound, microwave etc.
8. Learn physical and chemical properties of water and water complexation in natural and waste water and to understand about global warming, ozone depletion, greenhouse effect and acid rains.
9. Acquire knowledge on composition of inorganic and organic contaminants in soil, soil corrosion and industrial applications of green chemistry.
10. Get knowledge on various methods of solid waste collection and its disposal.

MSCCHE CC-13 Bio-Organic Chemistry

Course Outcomes:

Students will be able to:

1. How enzyme catalyzes the reaction with utmost efficiency, acid-base catalysis and covalent catalysis of enzyme, strain and distortion during enzyme catalysis, structure and biological functions of various coenzymes, and the origin of mechanism of enzyme action.

MSCCHE CC-14 Inorganic Chemistry (Practical)

Course Outcomes:

On completion of the course, students should be able to:

1. Prepare reagents required for analysis
2. Carry out qualitative tests and identify inorganic radicals.

SEMESTER-IV

MSCCHE CC-15:- Elective Course

1. (a) Inorganic Chemistry Special

Course Outcomes:

After the completion of the course, Students will be able to

1. Have a good overview of the core concepts in supramolecular chemistry and explain non covalent interactions, molecular recognition and self-assembly.
2. Be able to describe some of the applications of supramolecular chemistry including industrial applications and supramolecular catalysis.
3. Have a good overview of the fundamental principles of organotransition-metal chemistry and know how chemical properties are affected by metals and ligands.
4. Be able to use knowledge about structure and bonding issues to understand the stability and reactivity of simple organometallic complexes.



5. Have insight into the use of modern methods to characterize organometallic compounds.
5. Understand fundamental reaction types and mechanisms and how to combine these to understand efficient catalytic processes.
6. Know important applications of organometallic homogeneous catalysis in the production of large-scale (bulk) and smaller-scale (fine chemicals) production.

#### 1. (b) Physical Chemistry Special

##### Course Outcomes:

1. It is an advanced level course which helps to understand the concepts of physics and their subsequent applications in the field of chemistry.
2. The concepts of chemical thermodynamics helps in the design of processes in chemical industries.
3. The concepts of statistical thermodynamics find relevance in understanding the nature of solids and metals in specific.
4. It enables to understand chemical bonding, photochemistry and spectroscopy
5. To understand the theoretical basis of catalysis, corrosion and various complex reactions which find relevance in biological processes and are of industrial importance.
6. The students are introduced to the modern techniques developed for the practical applications of these concepts in different areas of science and technology.
7. This course will enable the students to handle issues related to corrosion in the day to day life and in industrial reactors; enzyme mediated reactions in biochemistry, biotechnology and pharmaceutical chemistry etc.

#### 1. (c) Organic Chemistry Special

##### Course Outcomes:

1. To solve the composite problems involving the applications of UV-Visible, IR, NMR ( $^1\text{H}$  &  $^{13}\text{C}$ ).
2. Students will understand the systematic nomenclature of various types of heterocyclic compounds with multiple examples.
3. Students will get the sound knowledge on the structure, synthesis and reactions of various three, four, five, six and seven membered simple and fused heterocyclic compounds.
4. Students will gain an understanding on the classification and nomenclature of drugs, modern theories of drug action and drug design.
5. Students will be able to know classification, synthesis and mode of action of antipyretic analgesic drugs, general anaesthetics, local anaesthetics, cardiovascular drugs, antineoplastic agents and antiviral drugs with suitable examples.
6. Students will get a good understanding of isolation, classification,
7. Methods of structure elucidation and synthesis of various types of alkaloids, terpenoids and steroids with suitable examples.

#### MSCCHE CC-16:- Elective Course (P)

#### 2. (a) Practical (Inorganic Chemistry Special)



Course Outcomes:

1. Type Metal and quantitative analysis of the constituents & mixtures containing the following

radicals Fe + Ni, Fe + Ca, Cr + Fe.

2. Students will learn the systematic methods of separation techniques.

3. Apart from inorganic radicals they also learn the separation organic radicals.

2. (b) Practical (Physical Chemistry Special)

Course Outcomes:

This practical course give training to students on important electrochemical techniques namely,

1. Conductometry, potentiometry, voltametry and polarography.

2. In addition, they are introduced to nuclear and radiation chemistry experiments.

3. This course enhances the skill of students in quantitative analysis.

2. (c) Practical (Organic Chemistry Special)

Course Outcomes:

1. Student will gain the in-depth knowledge and skill in organic separations.

2. Purifications, qualitative analyses.

3. Separation of organic compounds using chemical methods from organic mixtures.

3. Students will learn preparation of suitable derivatives.



### 3. M.A./ M. Sc. Mathematics

#### Program Outcome-

On the completion of M.Sc. (Math) student will develop problem solving skills in the field of Algebra, Analysis, Computational Techniques, Optimization, Differential Equations and will be able to become competent professional at global level.

#### M.Sc Semester 1

##### CC-I Abstract Algebra

Course Outcome- To provide a first approach to the subject of algebra, which is one of the basic pillars of modern mathematics and to study of certain structures called groups, rings, fields and some related structures. In this course, the basic pillars of modern mathematics will be introduced and analyzed.

##### CC-II Real Analysis

Course Outcome-The course includes axioms of real number systems, uniform convergence of sequences and series of functions, equicontinuity, compact and complete metric spaces, the inverse

function theorem, the Stone-Weierstrass theorem and contraction maps.

##### CC-III Linear Algebra

Course Outcome- This course is to learn, how Linear Algebra is ubiquitous in Mathematics and therefore a strong foundation has to be laid in studying the abstract algebraic concepts intertwining

geometric ideas. The fundamental notions of vector spaces viz linear dependence, basis and dimension and linear transformations on these spaces have to be studied thoroughly

##### CC-IV Discrete Mathematics

Course Outcome- To Verify the correctness of an argument using symbolic logic and truth tables. Construct proofs using direct proof, proof by contradiction, and proof by cases, or mathematical induction. Solve problems using counting techniques and combinations.

##### CC- V General Advanced Mathematics

Course Outcome- A curriculum to self-study advanced mathematics with minimal prior knowledge.

##### CC-VI Complex Analysis

Course Outcome- After completing of this course, the students will be able to demonstrate understanding of the basic concepts and fundamental definitions underlying complex analysis.

They

can prove and explain concepts of series and integration of complex functions and clearly understand problem-solving using complex analysis techniques after covering the following topics.

##### CC- VII Differential and Integral Equations

Course Outcome- Solve second order differential equations using different techniques. Apply 2nd

order differential equations to the variety of theoretical problems. Understand the meaning, use and

applications of the partial differential equations.

##### CC- VIII Measure Theory

Course Outcome- To introduce the concepts of measure and integral with respect to a measure, to

show their basic properties, and to provide a basis for further studies in Mathematical Analysis, Probability Measure Theory and Dynamical Systems. To construct Lebesgue's measure and learn the



theory of Lebesgue integrals on real line.

#### CC-IX Topology

Course Outcome- The course introduces topology, covering topics fundamental to modern analysis

and geometry. It also deals with subjects like topological spaces and continuous functions connectedness, compactness, separation axioms, and selected further topics such as function spaces, metrization theorems, embedding theorems and the fundamental group.

#### CC- X Number Theory

After studying this course, you should be able to find quotients and remainders from integer division, apply Euclid's algorithm and backwards substitution, understand the definitions of congruences, residue classes and least residues, add and subtract integers, modulo  $n$ , multiply integers and calculate powers, modulo  $n$  and determine multiplicative inverses, modulo  $n$  and use to

solve linear congruences.

#### CC-XI Functional Analysis

Course Outcome- At the end of this course the students will be able to understand a strong foundation in functional analysis, focusing on spaces (Metric Spaces, Normed Spaces, Inner Product

Spaces) Operators, Fundamental Theorems and Applications.

#### CC- XII Fluids Dynamics

Upon successful completion of this course the students will be able to: Understand the various properties of fluids and their influence on fluid motion and analyse a variety of problems in fluids statics and dynamics.

#### CC- XIII Classical Mechanics

Course Outcome:- On completion of the course, student will be able to identify the motion of a mechanical system using Lagrange-Hamilton formalism. This course makes students familiar with

Lagrangian Dynamics, Hamiltonian Dynamics, Central Force Problem etc.

#### CC- XIV Optimization Techniques

Course Outcome: At the end of this course the student will be able to comprehend the techniques and applications of Engineering optimization, analyze characteristics of a general linear programming problem. It makes students able to apply basic concept of mathematics to formulate an optimization problem and analyze and appreciate variety of performance measure for various optimization problem.

#### CC-XV Differential Geometry

Course Outcome:- Differential geometry is the tool we use to understand how to adapt concepts such as the distance between two points, the angle between two crossing curves, or curvature of a

plane curve, to a surface.



#### 4. M.Sc. Physics

##### **Program Outcome –**

After completion of the course students will possess strong analytical skills, pedagogical skills and essential ingredients for researches in theoretical and experimental areas and entrepreneurship. With computational and analytical skills, they will have requisite skills to solve problems.

##### SEMESTER I

##### MPHYCC-1: Classical Mechanics

##### Course Objectives:

1. To give students a solid foundation in classical mechanics.
2. To introduce general methods of studying the dynamics of particle systems.
3. To give experience in using mathematical techniques for solving practical problems.
4. To apprise the students of Lagrangian and Hamiltonian formulations and their applications.
5. To apprise the students regarding the concept of electrodynamics and its use in various situations.

##### Course Outcomes:

1. Know the difference between Newtonian mechanics and Analytical mechanics.
2. Solve the mechanics problems using Lagrangian formalism, a different method from Newtonian mechanics.
3. Understand the connection between classical mechanics and quantum mechanics from Hamiltonian formalism.
4. Understanding of basic concepts of special and general theory of relativity.

##### MPHYCC-2: MATHEMATICAL PHYSICS

##### Course Objectives:

1. To develop knowledge of mathematical Physics and its application.
2. To develop expertise in mathematical techniques those are required in Physics.
3. To enhance problem solving skills.
4. To give the ability to formulate, interpret and draw inferences from mathematical solutions.

##### Course Outcome:

1. Master the basic elements of complex mathematical analysis.
2. Solve differential equations that are common in physical sciences.
3. Apply group theory and integral transforms to solve mathematical problems of interest in Physics.
4. Understanding how to use special functions in various physics problems.
5. Properties of covariance and principle of equivalence.

##### MPHYCC-3: QUANTUM MECHANICS



#### Course Objectives:

1. To illustrate the inadequacy of classical theories and the need for a quantum theory.
2. To explain the basic principles of quantum mechanics.
3. To develop solid and systematic problem solving skills.
4. To apply quantum mechanics to simple system occurring in atomic and solid state physics.

#### Course Outcome:

1. To have a working knowledge of the foundations, techniques and key result of quantum mechanics.
2. To comprehend basic quantum mechanical application at the research level.
3. Gain an ability to competently explain/teach physics to others.

#### MPHYCC-4: LAB 1

#### Course Objectives:

1. To make the student familiarized with the basics of experimental physics.
2. To enable the students to explore the concepts involved in the thermodynamics and heat.
3. To make the student understand the basic concept in modern optics.
4. To allow the student to understand the fundamentals of instruments involved.

#### Course Outcome:

1. The student should have knowledge of the different experimental techniques.
2. The student should have understood the basics of physics involved in experiments.
3. The student should be able to apply the concepts of physics and do the interpretation and acquire the result.

#### SEMESTER II

#### MPHYCC-5: MODELING AND SIMULATION

#### Course Objectives:

1. To encourage students to “discover” in a way how physics learn by doing research.
2. To address analytically intractable problems in physics using computational tools.
3. To enhance the various computational technique with programming in Fortran/C++/Python/Java to face the world of problems using high performance iteration techniques.
4. To show how physics can be applied in a much broader context than discussed in traditional curriculum.

#### Course Outcome:

1. Learn how to interpret and analyze data visually, both during and after computation.
2. Gain an ability to apply physical principles to real-world problems.
3. Acquire a working knowledge of basic research methodologies, data analysis





and interpretation.

4. Understand various simulation techniques which can be used in future by students to analyse the data.

#### MPHYCC-6: ELECTRODYNAMICS AND PLASMA PHYSICS

Course Objectives:

1. To apprise the students regarding the concepts of electrodynamics and its use in various situation.

Course Outcome:

1. Time-varying fields and Maxwell equation.
2. Various concepts of electromagnetic waves.
3. Radiation from localized time varying sources and the charged particle dynamics.

#### MPHYCC-7: ELECTRONICS 1

Course Objectives:

1. To make the student familiarize with the basics of electronics.
2. To enable the student to explore the concept involved in the oscillators.
3. To make the student understand the basic concepts in IC and digital devices.
4. To allow the student to understand the fundamentals of multivibrators.
5. To provide in-depth theoretical base of Digital Electronics.

Course Outcome:

1. Fundamental designing concepts of different types of Logic Gates, Minimization techniques etc.
2. Designing of different type of the Digital circuits and to give the computational details for Digital circuits.
3. Characteristics of devices like PNP and NPN junction diode and the truth tablets of different logic gates.
4. Basic elements and to measure values with multimeter and their characteristic apply.
5. How to construct electronic circuit.

#### MPHYCC-8: STATISTICAL MECHANICS

Course Objectives:

1. The course is to understand the basics of Thermodynamics and Statistical system.

2. Understand the various laws of Thermodynamics.
3. Acquire the knowledge of various statistical distributions.
4. To comprehend the concept of Enthalpy, phase transition and thermodynamics functions.

Course Outcome:

1. Basic knowledge of thermodynamics systems.
2. Understand the basic idea about statistical distributions.
3. Impart the knowledge about the phase transition and potentials.



4. Understand the application of statistical laws.

MPHYCC-9: Lab – II

Course Objectives:

1. To encourage students to “discover” in a way how physics learn by doing research.
2. To address analytically intractable problems in physics using computational tools.
3. To enhance the various computational technique with programming basic in C to face the world of problems using high performance iteration techniques.
4. To show how physics can be applied in a much broader context than discussed in traditional curriculum.

Course Outcome:

1. Understand the basic idea about finding solutions using computational methods basics.
2. Learn how to interpret and analyze data visually, both during and after computation.
3. Gain an ability to apply physical principles to real-world problems.
4. Acquire a working knowledge of basic research methodologies, data analysis and interpretation.
5. Realize the impact of physics in the global/social context.

SEMESTER III

MPHYCC-10: ATOMIC AND MOLECULAR PHYSICS LASERS

Course Objectives:

1. Objectives of this course is to learn atomic, molecular and spin resonance spectroscopy.
2. To understand mechanism and working of lasers.
3. To be able to understand atomic and molecular transmission and selection rules.
4. To understand the Raman Effect and its applications.

Course Outcome:

1. Atomic spectroscopy of one and two valance electron atoms.
2. The change in behavior of atoms in external applied electric and magnetic field.
3. Rotational, vibration, electronic and Raman spectra of molecules.
4. Electron spin and nuclear magnetic resonance spectroscopy.
5. Principle working and application of laser.

MPHYCC-11: Condensed Matter Physics

Course Objectives:

1. To study some of the basic properties of the condensed phase of materials especially solids.
2. To study electrical and magnetic properties of solids.
3. To understand superconductivity and various properties of semiconductors.

Course Outcome:



1. Structures in solids and their determination using XRD.
2. Behavior of electronics in solids including the concept of energy bands and effect of the same on material properties.
3. Electrical, thermal, magnetic and dielectric properties of solids.

#### MPHYCC-12: Electronics II (Analog and Digital Electronics)

##### Course Objectives:

1. To understand the working of advanced semiconductor devices and digital circuits and the utility of OP – AMP.
2. To learn the basics of integrated circuit fabrication, application of timer IC – 555 and building block of digital systems.

##### Course Outcome:

1. Fundamental designing concepts of different types of Logic Gates, Minimization techniques etc.
2. Designing of different types of the Digital circuits and to give the computational details for Digital Circuits.
3. Characteristics of devices like PNP and NPN junction diode and the truth tablets of different logic gates.
4. Basic elements and to measure values with multimeter and their characteristic apply.
5. Working of Flip – Flops registers and counters.

#### MPHYCC-13: Nuclear and Particle Physics

##### Course Objectives:

1. To study the general properties of nucleus.
2. To study the nuclear forces and nuclear reactions.
3. To introduce the concept of elementary particles.
4. To impart knowledge about basic nuclear physics properties and nuclear models for understanding of related reaction dynamics.

##### Course Outcome:

1. Acquire basic knowledge about nuclear and particle physics.
2. Develop the nuclear reactions and neutron physics.
3. Understand the nuclear fission and fusion reactions.
4. Impart the knowledge about the nuclear forces and elementary particles.

#### MPHYCC-14: Lab III

##### Course Objectives:

1. To make the student familiarize with the basics of electronics.
2. To enable the student to explore the concept involved in the oscillators.
3. To make the student understand the basic concepts in IC and digital devices.
4. To allow the student to understand the fundamentals of multivibrators.

##### Course Outcome:

1. The student will have knowledge on the different experimental techniques involved in electronics.
2. The student should be able to independently construct the circuit.
3. The student should be able to apply the concepts of electronics and do the



interpretation and acquire the result.

## SEMESTER IV

### MPHYCC-1A: Advanced Quantum Mechanics

#### Course Objectives:

1. To impart knowledge of advanced quantum mechanics for solving relevant physical problems.

#### Course Outcome:

1. Importance of relativistic quantum mechanics compared to non-relativistic quantum mechanics.
2. Various tools to understand field quantization and related concepts.
3. Exposure to quantum field theory and universal interactions.

### MPHYCC-1B: Advanced Condensed Matter Physics

#### Course Objectives:

1. The course is to understand the basic knowledge on crystal structures and systems.

2. Understand the various process technique available of X-Ray Crystallography.

3. Acquire the knowledge of Lattice waves and Polarisation.

4. To comprehend the concept of superconductivity and magnetic properties of solids.

#### Course Outcome:

1. Basic knowledge of crystal structures and systems
2. Understand the knowledge about the properties Electronic Properties of Solids.
3. Impart the knowledge about the properties magnetic Properties of Solids.
4. Understand the application of superconductivity.

### MPHYCC-1C: Atmospheric

#### Course Objectives:

1. To provide a keen knowledge on atmospheric behavior, description of air, stratification of mass, trace constituents, radiative equilibrium of planet, global energy budget, and general circulation.

2. To provide a deep insight on physics of atmosphere, aerosols and clouds.

3. To understand the Short wave and long wave radiation, radiometric lamberts equation, radioactive heating, thermal relaxation and greenhouse effect.

#### Course Outcome:

1. Acquire knowledge on earth atmosphere governing by physical laws.
2. Achieve basic inputs for the global circulation of atmosphere.
3. Create a scope to identify new areas of research in the field of atmospheric science.

### MPHYCC-1D: Biophysics



#### Course Objectives:

1. The course is to understand the basic knowledge on biomolecular.
2. Understand the various theoretical modeling techniques involved in biomolecular systems.
3. Acquire the knowledge of structure and function of proteins, Carbohydrates  
\* Nuclei acid.
4. To comprehend the concepts of Biochemistry and system biology.

#### Course Outcome:

1. Basic knowledge of Biomolecular of chemistry and functions.
2. Understand the basic idea about the Structure and Function of Nucleic Acids.
3. Impart the knowledge of about the function of Carbohydrates, proteins.
4. Understand the applications of Biomolecules.

#### MPHYCC-1E: Laser and Photonics

#### Course Objectives:

1. Describe and explain the principle involved in the interaction between light and matter, including the effects of anisotropy and non-linearity comprehend the modification and control of optional properties of materials by externally imposed electric, magnetic and acoustic fields.
2. Recall and recount the optical properties of semiconductor light sources and detectors expand the properties of the confinement of light in waveguide and fibers.

#### Course Outcome:

1. Knowledge of fundamental physics of photonics is developed to a high level.
2. The course prepares students to be able to the sophisticated instrumentation intelligently, with a good understanding of its capabilities and limitation.

#### MPHYCC-1F: Measurement and Instrumentation

#### Course Objectives:

1. To make the student familiarize with the basics of experimental physics.
2. To make the student familiarize with the basics of electronics.
3. To enable the student to explore the concepts involved in the oscillators.
4. To allow the student to understand the fundamentals of instrumentals of instruments involved.

#### Course Outcome:

1. The student should have had knowledge on the different experimental techniques.
2. The student should have understood the basics of physics involved in experiments.
3. The student should be able to apply the concepts of physics and do the interpretation and acquire the result.

#### MPHYCC-1G: Computational Methods



#### Course Objectives:

1. To encourage students to “discover” Physics in a way how physics learn by doing research.
2. To address analytically intractable problems in physics using computational tools.
3. To enhance the various computational techniques with programming basic in C to face the world of problems using high performance iteration technique.
4. To show how physics can be applied in a much border context than discussed in traditional curriculum.

#### Course Outcome:

1. Understand the basic idea about finding solutions using computational method basics.
2. Learn how to interpret and analyze data visually, both during and after computation.
3. Gain and ability to apply physical principal to real-world problems.
4. Acquire a working knowledge of basic research methodologies, data analysis and interpretation.
5. Realized the impact of physics in the globe/societal context.

#### MPHYCC-1H: Nano Science

#### Course Objectives:

1. The course is to understand the basics knowledge on nanoscience and nanotechnology.
2. Understand the various process techniques available of nanostructure material.
3. Acquire the knowledge of various nano particles process methods.
4. To enhance the various analytical technique to understand the nano properties and characteristics of nano materials.

#### Course Outcome:

1. Basic knoweldge of Nanoscience and nanotechnology.
2. Under the basic idea about the nono structure.
3. Impart the knowledge about the properties and characteristics techniques of nano materials.
4. Understand the application of nanomaterials.

#### MPHYCC-1 I: Plasma Physics

#### Course Objectives:

1. To expose the students to theory related to motion of charge particle in inhamogeneous field, production of plasma and usage of plasma.

#### Course Outcome:

1. Theoretical method to study the charge particle motion.
2. Process to generate plasma in the laboratory.
3. Mechanism plasma production is helpful to make fusion reactor.

#### MPHYCC-1J: Crystal Physics and X-Ray Crystallography

#### Course Objectives:



1. Introduce the fundamental concepts of crystal structure.
2. To understand the diffraction principle and use of X-rays.
3. To understand the symmetry and space groups.
4. To know about lattice representation and reciprocal lattices.
5. To determine and analyse the crystal structure using x-ray diffraction

Course Outcome:

1. The structure of various crystals.
2. Know the theoretical framework like symmetry and space groups.
3. Know to characterize the crystal using x-ray diffraction experiments and
4. Also would be able to analyze the collected experimental data.

MPHYCC-1K: Energy Science

Course Objectives:

1. Enable the students to appreciate the importance of solar energy and renewable energies.
2. Providing an understanding of essential components of renewable energy applications and limitations.

Course Outcome:

1. Understand the importance of solar energy and renewable energies.
2. Understand essential components of renewable energy applications and limitations.
3. Design renewable energy systems as requirements.
4. Contributes towards reduction of dependence on conventional energy sources.

MPHYCC-1L: Environmental Science

1. Enable the student to learn the concepts of sustainable development and coexistence with nature.
2. Enable the student to gain abilities to reduce environmental science.
3. Enable the student to understand the source of solar and terrestrial radiation.
4. Enable the student realize the hazards associated with depleting Ozone Layer, and the factors responsible for the depletion of Ozone layer.
5. Enable the student to understand the importance of trees.
6. Enable the student to realize the importance of renewable energy sources like solar wind and biogas.

Course Outcome:

1. Understand the importance of basics of environmental processes.
2. Get opportunities of working metrological stations and even establish metrological stations in remote places for better future.
3. Develop his/her understanding of global and regional climate change.



## 5. M.Sc., Zoology

### Program Outcome –

On the completion of the course students will have sound base and in-depth knowledge of living organism at several levels of Zoological and Biological Organization from molecular, through to cells and whole organisms and ecosystem of all evolutionary perspectives.

#### CC-1: Functional Biology of Invertebrates and Chordates

##### Course Outcome:

1. Comprehend the concept and organization of coelom and its significance.
2. Learn and appreciate the Invertebrate larvae, their types and significance; Feeding pattern, Mode of nutrition, Mechanism and the Organs associated in digestion; Concept of Respiration, Respiratory pigments, and the mechanism of Respiration in Invertebrates.
3. Understand and describe the modes of Excretion, organs involved in Excretion and the mechanism of Osmoregulation in Invertebrates.
4. Understand and describe the Neurotransmitters, Conduction of nerve impulse, Muscle contraction and Mechanism of Thermoregulation in Invertebrates.

#### CC-2: Molecular Cell Biology

##### Course Outcome:

1. Describe the Bio-membrane system i.e. their composition, structural arrangement, their types and mechanism of transport.
2. Describe the structure and function of microtubules and microfilament in cytoskeleton, role of kinesin and dynein, axonal transport and cell movement etc.
3. Understand the concept of DNA replication in Prokaryotes and Eukaryotes, DNA damage and repair mechanism; Transcription on Prokaryotes and Eukaryotes; Regulatory elements and DNA binding domains of transcription apparatus; Processing of primary transcript and RNA editing in Eukaryotes.
4. Describe the Mechanism of Gene Regulation in Prokaryotes and Eukaryotes.

#### CC-3: Genetics

##### Course Outcome:

1. Differentiate between organization of Prokaryotes and Eukaryotes chromosomes; explain heterochromatin and functional significance of Polytene and Lampbrush chromosomes.
2. Understand Microbial Genetics and reproduction in bacteria; construct linkage map in bacteria.
3. Understand and explain the Cell cycle, Sex determination and Dosage compensation.
4. Understand different techniques used in DNA sequencing, DNA amplification and DNA finger printing and analyze the genome expression.

#### CC-4:(Practical)





Course Outcome:

1. Prepare and demonstrate Polytene chromosomes from Chironomus/ Drosophila larvae.
2. Calculate mitotic index by preparing slides from onion root tip and study stages of meiosis by preparing slides from grasshopper testes.
3. Enumerate RBC and WBC (TC and DC) by preparing blood smear and prepare slides of invertebrates larvae to show detailed structure.
4. Solve problems related to concept of Mendelian principle of Inheritance, Sex-linked and Pedigree of Human.

SEMESTER II

CC-5: Environmental Science

Course Outcome:

1. Understand the concept and dynamics of ecosystem, abiotic and biotic factors and different energy flow models. Describe biogeochemical and hydrological cycles.
2. Discuss the principles pertaining to limiting factors such as Liebig's law of minimum and Shelford's law of tolerance.
3. Understand demography, population growth and its regulation mechanism and gain the concept of niche, resource partitioning and character displacement.
4. Understand the global environment issues and importance of wild life conservation. Define pollutants, its source and classification, biomagnification and eutrophication and bio-indicators as index of pollution.

CC-6: Bio-instrumental & Biostatistics

Course Outcome:

1. Understand the principles and uses of analytical instruments, microscopy and different separation and immunological techniques.
2. Understand the basic concepts in Biostatistics.
3. Learn to calculate mean, standard deviation, standard error, correlation and regression.
4. Understand the rules of probability and test of significance.

CC-7: Biochemistry

Course Outcome:

1. Understand the law of thermodynamics, enthalpy, entropy, concept of free energy, redox potential, energy rich compounds, mitochondrial electron chain and oxidative phosphorylation.
2. Explain different types of carbohydrates, glycolysis, HMP shunt, glyconeogenesis and glycolysis.
3. Understand the biochemistry of proteins and lipids, peptide conformation, synthesis and importance of fatty acids. Discuss enzymes, its mechanism of action, enzyme kinetics, free radicals and antioxidants.
4. Explain the general principles of histochemistry of carbohydrate, protein, lipid, nucleic acids and enzymes. Understand the general principles of fixation



and staining.

#### CC-8: Biosystematics and Evolution

Course Outcome:

1. Understand the basic concept of biosystematics and taxonomy, its importance and application in biology, hierarchy, of categories, species concept, International code of Zoological nomenclature (ICZN) and trends in taxonomy.
2. Understand the pattern of generic variation and natural selection (Darwinian and neo – Darwinian) and mode of its operation, mechanism of molecular evolution, neutral theory of molecular evolution, neutral theory of molecular evolution and origin of new genes and evolution of multi gene family.
3. Understand the concept of gene pool, allele frequency and genotype frequency, Hardy-Weinberg principle of genetic equilibrium and its destabilizing forces such as Natural selection, Mutation, Meiotic drive and Genetic Drift.

#### CC-9: (Practical)

Course Outcome:

1. Determine the salivary amylase activity. Estimate glucose, urea, uric, acid, or albumen in a given sample by colorimetry. Separate amino acids by paper chromatography.
2. Use the reagents such as PAS, Alcian Blue, Sudan Black B, Sudan III/IV, Feulgen, Methyl green- Pyronin and mercury bromophenol for histochemical demonstration.
3. Measure pH and estimate dissolved O<sub>2</sub>, free CO<sub>2</sub>, carbonate and bicarbonate alkalinity and total hardness.

#### SEMESTER III

#### CC-10: Vertebrate Immunology

Course Outcome:

1. Describe the immunology and develop the basic concepts of Antigenicity and immunogenicity.
2. Describe the molecular structure and function of major histocompatibility complex and to describe the types of hypersensitivity and mechanism of tolerance.

#### CC-11: Gametes and Development Biology

Course Outcome:

1. Explain the concept of embryogenesis and Organogenesis.
2. Describe the development model systems- invertebrates and vertebrates.

#### CC-12: Vertebrate Endocrinology



Course Outcome:

1. Understand basic principles of homeostatic regulation of biological systems.
2. Know the structures and biosynthetic pathways of major families of chemical messengers.
3. Recognize the adversity of hormone receptor systems and transduction pathway. Acquire the knowledge of hormonally regulated physiological processes.

CC-13: Animal Behaviour

Course Outcome:

1. Explain the relationship of behavior and Cognition.
2. Explain Rhythmic behaviors.
3. Explain Social behaviors.
4. Explain feeding and Reproduction behavior.

CC-14: (Practical)

Course Outcome:

1. Develop skill of determination of blood group, preparation of blood film and identification of blood cells of immunological importance.
2. Do hormonal assessment of T3/Testosterone/Oestrogen by ELISA reader.
3. Identify and comment on endocrinological slides, embryological slides and endocrine glands in a mammal.
4. To learn behavioral aspects in animals such as parental care, caste system of given laboratory specimen and also learn methodology of communication in honey bees.

SEMESTER IV

CC-15 & 16 : Elective Paper

EC – 1 A: - Cell and Molecular Biology

Course Outcome:

1. Summarize the cell and protein involved in the regulation and molecular defects leading to cancer.
2. Investigates the new developments in molecular biology and its implications in human welfare using Recombinant DNA Technology.

EC – 2 A: - Cell and Molecular Biology (Practical)

Course Outcome:

1. Perform experiments on vital staining of secretory granules and mitochondria.
2. Demonstrate cytochemical properties of proteins. Lipids, carbohydrates and nucleic acids.
3. Identify and analyze Barr body from epithelial cells. To estimate sperm, count from epididymal wash of laboratory mammals and study abnormal sperms.

EC – 1B: - Fish and Inland Fisheries

Course Outcome:

1. Explain the origin and evaluation of elasmobranch and teleost.



2. Understand the structure and function of Alimentary canal, Acoustico-lateralis system.
3. Learn the mechanism of respiration organs, reproduction in fish and fish endocrinology.

EC – 1B: - Fish and Inland Fisheries (Practical)

Course Outcome:

1. Acquire the knowledge of Hematological analysis and RBC counting. Estimation of pH, Dissolve Oxygen, Total alkalinity and hardness.

EC – 1 D: Entomology

Course Outcome:

1. Differentiate the morphology and anatomy of insects.
2. Summarize the histological importance of the following systems: digestive, respiratory, nervous, circulatory, excretory and reproductive system.

EC – 2 D: - Entomology (Practical)

Course Outcome:

1. Dissect grasshopper or honeybee or wasp to expose and investigate its general anatomy and nervous system.
2. Prepare permanent slides of different parts of insects.

EC – 1 C: - Environmental Biology

Course Outcome:

1. Understand the ecosystem and population ecology, community ecology & succession.
2. Concept of Biodiversity and its conservation, wildlife management (project tiger and biosphere reserves).
3. Discuss the Environmental pollution and environmental health, Climate change, Ozone depletion, acid rain, toxic substances in the environment.

EC – 2 C: - Environmental Biology

Course Outcome:

1. Studies of soil fauna and analysis of Physico-chemical.



## 6. M.A. IN ECONOMICS

### Program Outcome –

On the completion of the program, students will be equipped with requisite knowledge and skills to evaluate pros cons and challenges of entrepreneurial ventures and insight into fields of energy economics, industrial economics, financial markets etc. They will be able to analyses the socio-political and economics issued related to national and international scenario, to utilize the research spheres of economics and to develop knowledge about monetary policy economic planning, production, demand, marketing options etc.

### SEMESTER I

#### CC-1 Microeconomics Analysis-1

##### Course Outcomes:

1. On successful completion of the course, a student will be able to develop a sound understanding of the core microeconomic concepts that economists use to understand the process of decision-making by an economic agent(s).
2. The student should be able to apply mathematical tools and techniques to study behaviour of economic agents. By studying this course, students are expected to understand the theorems and the underlying mathematical analyses of interrelationship between concepts, choice theories and markets phenomena.

#### CC-2 Macroeconomics Analysis-1

##### Course Outcomes:

1. Get an overview of the major developments in macroeconomic theory, with particular emphasis on the policy prescriptions of the earlier macroeconomic schools of thought.
2. Develop an understanding of the interrelationships among the various macroeconomic variables and the way they impact upon the working of the economy as a whole, thereby determining the course of the economy.
3. Gain in depth knowledge about Keynesian vs Monetarist policy formulations as well as the post Keynesian approaches to demand for money.
4. Knowledge about money supply and open economy.
5. The course prepares the students with a theoretical base on the evolution of money and deeper insights into the utility of money in different macroeconomic frameworks.

#### CC-3 Mathematical Methods

##### Course Outcomes:

1. By studying this course, students are expected to understand classical optimization, differential calculus to be used in econometrics and optimisation, and input-output & linear programming.
2. Students can know applications of linear programming in economics.
3. Students can know applications of dynamic programming solution multistage optimization problem.

#### CC-4 History of Economic Thought



#### Course Outcomes:

1. The main goal of this course is to provide students with understanding of historical evolution of economic thought. In addition students are also led to formulate their own research question in the topic of their interest.
2. Student will learn economic history as understanding of what was going on in the economy in past and it helps to understand how people conceptualized the vision of the real and monetary economy.
3. Students would be able to understand some historically important articles and concepts of the political economy and economics. They acquire a broad understanding of the evolution of economic thinking in the period of more than two thousand years. The emphasis is on societal milieu however issues relevant to policy are also considered.
4. By the end of this course student will be able to evaluate different streams of economic thinking as well some personalities who had an impact of history of economic thought.

#### SEMESTER II

##### CC-5 Indian Economy – Issues and Policies - 1

#### Course Outcomes:

1. It will enable them to understand the objectives and Strategy of Planning.
2. Familiarity with the concept of Land Resources, Forest Resources, Water Resources, mineral resources and policy issues.
3. Understanding the concepts of economic reform and external sector of India.
4. It discussed the background of Indian economic development during the last seven decades, major economic policy reforms and policies relating to infrastructure, services sector and trade policies have been discussed.

##### CC-6 Economics of Growth and Development - 1

#### Course Outcomes:

1. Understanding the basic facts of economic growth.
2. Comprehension of relationship between growth and development.
3. Familiarity with the wide-ranging partial theories in growth economics.
4. A thorough understanding of literature on classical growth models.

##### CC- 7 Micro Economic Analysis II

#### Course Outcomes:

1. After the completion of the course, students will be able to address economic issues related to uncertainty and risk in decision-making.
2. The students will learn to understand how in the real world market contractual settings are characterized by conflict of interests as well as asymmetry of information among the individuals involved. Students also learn about General Equilibrium and Welfare Economics.



## CC- 8 Macro Economic Analysis II

### Course Outcomes:

1. Understand the role of expectations in macroeconomics.
2. Understanding New Classical policy approach.
3. Exposure to some later developments in macroeconomic theories.
4. Understand about the basics of open economy macroeconomics.
5. Gain Knowledge about theories of business cycle and Macroeconomic policies.

## CC- 9 Statistical Methods

### Course Outcomes:

After successful completion of this course, a student will be able to:

1. Understand Bivariate data. Significance of various coefficients of correlation (simple, Multiple & Partial).
2. Understand Fitting of linear and nonlinear curve.
3. Understand Bivariate probability distribution.
4. Understand Exact sampling distributions, its properties and applications.
5. Understand the relationship between the variables/attributes in a given dataset.
6. Understand categorical data analysis and related inferences.
7. Apply statistical tools for drawing meaningful inferences.

## SEMESTER III

## CC-10 Indian Economy – Issues and Policies - II

### Course Outcomes:

1. By learning this paper students are expected to equip with knowledge on different sectoral issues and policies and programmes related to those sectors. It presents and integrated approach to different aspects of policy making with regard to agriculture and industrial sectors.
  - Students will know about Agriculture and allied sector in Bihar and policies initiated by government, issues in agricultural sector; industrial development– Problems and Prospects; Tertiary Sector Growth; public finance of Bihar.

## CC-11 Economics of Growth & Development - II

### Course Outcomes:

1. Familiarity with the theoretical and empirical analysis of economic growth process and policy implications.
  - Acquiring technical skills on measurement issues related to Total Factor Productivity.
  - By studying this paper students are expected to learn about concepts and fundamental theories of economic development, theories of economic growth, and economic growth and technical progress. These concepts will help them to understand the basic differences in various growth models which they can empirically verify later in their research work with respect to several economics' topic.

## CC-12 Public Economics



Course Outcomes:

1. The overall outcome of the course is the development of an understanding of public sector financial resources.
2. Understanding of the rationale for the existence of modern governments
  - Familiarity with the micro and macro aspects of public expenditure.
  - Acquaintance with the phenomenon of externality and the role of government.
  - To know about fiscal policy and stabilization policy
6. Develops an understanding of various aspects taxation theory
  - Familiarity with the different aspects of fiscal federalism
  - Acquaintance with the technique of cost benefit analysis for project appraisal
  - Understanding of various aspects of fiscal policy and debt management.

CC-13 International Economics

Course Outcomes:

1. By studying this course, students are expected to understand New Theories of International Trade and International Trade Policy.
2. Students will learn about the idea of dual economy and its problems, and about the advantages and disadvantages of import substitutions and export promotions.
3. Students will acquire knowledge on the importance of trade in economic growth and development, students will be acquainted with emerging issues related to trade and trade policy.
  - Make students familiar with the empirical test of Heckscher Ohlin theorem, Product Life Cycle Theory, Linder Theory, Kenen's Theory and Emanuel's Theory.
  - Students will learn about various instruments of trade policies and about the costs and benefits of imposition of tariff, and about the advantages and disadvantages of Free trade.

CC-14 Research Methodology

Course Outcomes:

1. Students will acquire knowledge in the field of research and know how to use research methodology.

SEMESTER IV

CC-15 Elective Course - (Group –A) Agriculture Economics

Course Outcomes:

1. By studying this course, students are expected to understand important issues like theories of agriculture, agrarian structure and land reform.
2. Understand the various constraints specific to less developed agriculture.
  - Develop an understanding of the manifold obstacles to agricultural development, and the policies adopted to overcome them, with particular emphasis on the Indian agricultural scenario.
  - Awareness of the debates on farm size and productivity.
  - Gathering knowledge about state interventions and planning for agricultural development.

CC-15 Elective Course – 1 (Group –B) Industrial Economics - 1

Course Outcomes:

At the end of this course and having completed the essential reading and activities students should be able to:





1. Describe and explain the determinants of the size and structure of firms and the implications of the separation of ownership and control.
2. Describe and explain the pricing behaviour by firms with market power and its welfare implications.
3. Apply analytical models of firm behaviour and strategic interaction to evaluate various business practices, including tacit collusion, entry deterrence, product differentiation, price discrimination and vertical restraints
4. Recognise and explain the basic determinants of market structure and the key issues in competition policy and regulation.

#### CC-15 Elective Course – 1 (Group –C) Basic Econometrics

##### Course Outcomes:

1. By studying this paper students are expected to learn about concepts and fundamental models of statistical tools, regression models, and problems in regression models dynamic which will help their basic understanding on statistical tools and software packages for data analysis essential for higher studies and research.
  2. By studying this paper students are expected to learn about concepts and fundamental models of econometrics, regression with qualitative variables as dependent variable, dynamic econometric models, simultaneous equation model and causality in economics which will boost their basic econometrics knowledge and helpful for higher studies and research.
- After completion of the course, the students will be able to learn the technique of estimating Econometric Models by the use of dummy variables to accommodate qualitative investigation. The students are trained to apply basic econometric techniques like the Logit, and Probit models to empirical settings. Students also learn the use of Models and interpret data in the presence of problems that are prevalent in most econometric modelling settings.

##### Knowledge Gained

4. Basic assumptions behind the application of OLS technique for estimation.  
 Formulation and estimation of a multiple regression model.  
 Testing multiple hypothesis.  
 Decision about the statistical significance of individual explanatory variable and also over all model. □
  8. Impacts for the violation of one of the important assumptions for application of OLS regression  
 Concepts of Heteroscedasticity & Multicollinearity  
 Possible reasons behind the presence of Heteroscedasticity& Multicollinearity  
 Various tests to understand the presence of Heteroscedasticity and multicollinearity
- Competency developed:  
 Application of regression model for empirical data and try to compare the theoretical validity with empirical findings.  
 Decision about the reliability of estimation.

#### CC-15 Elective Course – 1 (Group –D) Monetary Economics & Policy

##### Course Outcomes:

1. By studying this paper students are expected to learn about recent tools of monetary policy and its functioning.
2. Learn about valuation of shares and bonds and derivative instruments and functioning of



derivative market.

CC-15 Elective Course – 1 (Group –E) Indian Public Finance

Course Outcomes:

1. Develops an understanding of various aspects taxation theory  
Familiarity with the different aspects of fiscal federalism  
Acquaintance with the technique of cost benefit analysis for project appraisal  
Understanding of various aspects of fiscal policy and debt management.

CC-15 Elective Course – 1 (Group –F) Urban Economics

Course Outcomes:

1. Understand theory and measurement of urban economic growth and development, spatial structure of cities and urbanization.
2. Students will be familiar with the current policy issues and programmes on urban economic growth, development and urbanization in India.

CC-15 Elective Course – 1 (Group –G) Financial Economics - 1

Course Outcomes:

1. By studying this paper students are expected to learn about concepts of financial system, its structure, functions, simple calculation of present and future value of money  
Familiarity of concepts like structure of interest rate and theories of interest.  
Have knowledge on different types of financial ratio calculation.  
Measurement of risk and return of an asset and portfolio.

CC-15 Elective Course – 1 (Group –H) Environmental Economics

Course Outcomes:

1. By studying this course, students are expected to know about Environment economy interaction, cost of Pollution and Measurement of Environmental values.  
Familiarity with the concept of Pollution and Government policy.
3. Students are expected to know about issues of climate change and Environmental and Natural Resource Problems in India.
4. Learn about the Environmental laws and their implementation; Policy instruments for controlling water and air pollution and forestry policy.

CC-16 Elective Course – 2 (Group –A) Indian Banking & Financial Institutions

Course Outcomes:

1. To Understand the Dynamics of Indian Banking Sector.
2. To analyse the Pertinent Issues in the Banking Sector
3. To familiarize students with the Reforms in the Banking Sector.
4. Comprehend the need, definition, functions and economic significance of financial institutions and markets.
5. To Critically understand the evolving role of Central Banking and Grasp the conduct of monetary policy

CC-16 Elective Course – 2 (Group –B) Industrial Economics



**Course Outcomes:**

This is a course for Industrial economics deals with basic concepts of industry, market product, industrial locations and industrial marketing.

**CC-16 Elective Course – 2 (Group –C) Demography**

**Course Outcomes:**

1. By studying this course, students are expected to know about different structure of population, theories, and how population help in the development process.
2. Students will learn about Characteristics of population in India- size and growth rate of population, birth rate and death rate, infant mortality rate, sex ratio of population. Rural urban migration, State wise area wise density of population in India, Region wise population in India, Population and literacy, Expectation of life at birth, Population problem on India.

**CC-16 Elective Course – 2 (Group –D) Agri- Business Management**

**Course Outcomes:**

1. By studying this course, students are expected to understand important issues like marketing, credit, insurance and distribution.
- Know about Food security system in India and public distribution; Issues of Agricultural Subsidies.

**CC-16 Elective Course – 2 (Group –E) Labour Economics**

**Course Outcomes:**

1. Students will understand the theoretical as well as empirical issues of industrial labour with special reference to India. It covers issues pertaining the wage theories, employment policies, trade unions and collective bargaining to the globalized economy and social security measures.

**CC-16 Elective Course – 2 (Group –F) Gender Economics**

**Course Outcomes:**

1. A student who studies this paper should be gender sensitive and wherever he or she works, will create an environment which is safe for women so that some changes can be seen in society as far as women empowerment is concerned.

**CC-16 Elective Course – 2 (Group –G) Financial Economics II**

**Course Outcomes:**

1. By studying this paper students are expected to learn about recent tools of monetary policy and its functioning.
- Learn about valuation of shares and bonds and derivative instruments and functioning of derivative market.

**CC-16 Elective Course – 2 (Group –H) Time Series Econometrics**

**Course Outcomes:**

1. By studying this paper students are expected to learn about concepts of Multi-equation time series models of econometrics, panel data regression with policy analysis.

**CC-16 Elective Course – 2 (Group –I) PROJECT WORK**



#### Course Outcomes:

1. A student who studies this paper should be analytical and wherever he or she works, will help to interpret the data for research as well as development in the society.
2. This will not only enhance their employability but also prepare them for future challenges.
3. This course is basically tailored to meet this current lacuna in the research in applied economics.

#### SEMESTER IV

##### DSE - I (Group –A) Fundamentals of Economics

###### Course Outcomes:

On completion of the course, student will be able to

1. To acquaint fundamental concepts of economic growth & development.
2. To understand contemporary theories of growth and development and their implications.
3. To enable use of various development tools strategies and policy interventions to realise economies unto higher tential trajectory of development.
4. To analyse major issues like poverty, inequality & role of development institutions.
5. To enhance capabilities to measure levels of development and relate them with various dimensions of development.

##### DSE - I (Group –B) Indian Rural Development

###### Course Outcomes:

1. Understand the nature and scope of rural economics and its importance to rural development.

##### DSE - I (Group –C) Planning and Economic Development in India

###### Course Outcomes:

1. It will enable them to understand the objectives and Strategy of Planning.
2. Understanding the concepts of economic reform and external sector of India.

It discussed the background of Indian economic development during the last seven decades, major economic policy reforms and policies relating to infrastructure, services sector and trade policies have been discussed.

##### DSE - I (Group –D) Personal Management & Industrial Management

###### Course Outcomes:

- 1 Meaning, concept, function, & importance of personnel management, role of a personnel manager, personnel policies.
2. Meaning, concept, need & types of manpower planning. Meaning and concept of job analysis, job description & job specification. Recruitment & selection.
3. Meaning, need, method & importance for training and development.
4. Meaning, Objective, method of performance appraisal, meaning and types of transfer, meaning and basis of promotion and separation.
5. Meaning purpose & principle of wage & salary administration, Methods of wage payment.
6. Health, safety and welfare facilities, Social security.
7. Meaning & concept of Industrial Relation and Trade Union.



## 7. M.A. English

### Program Outcome –

Upon the completion of the program, students will exhibit definite mastery of English Language skills, and will develop skills of research through interpretation, critical thinking and clear writing. They will develop competency to evaluate teaching-learning process and command over the four basic communication skills, Listening, Speaking, Reading and Writing (LSRW). They will be able to develop and cultivate physical, intellectual, emotional, aesthetic, ethical and spiritual values to survive in global competitions.

### M.A. Semester I (Odd Semester)

#### CC - I: English Poetry from Chaucer to Milton

Course outcome: This course provides a panoramic structure of English poetry from Chaucer to Milton. It will enable the understanding and interpretation of poetic production in relation to its historicity, culture and inheritance drawn from classical Greek antiquity and diverse continental influences in relation to thematic patterns and forms.

#### CC-2: Shakespearean Drama

Course Outcome: This course will enable the learners to gain knowledge of different dramatic forms used by Shakespeare. It will also enable students to revisit Shakespearean drama as a cultural production with relation to contemporary society and culture.

#### CC - 3: 15th to 17th Century Drama

Course Outcome: This course offers a spectrum of different kinds of drama beginning with a Morality play and concluding with a woman dramatist who wrote Comedy of Manners.

#### CC - 4: Late 17th and 18th Century Literature

Course outcome: This variety of selection of poetry, prose and novel is located within the Enlightenment project with its rationalizing processes impacting prosodic forms in poetry and anticipating a movement towards Romanticism. It will familiarize the students with the rising culture of the bourgeoisie.

### Semester 2 (Even Semester)

#### CC - 5: Film and Literature

Course outcome: The course on Film and Literature is to enable the understanding of the two most important cultural productions of our times. The course will examine films and texts as reflection and production of culture, ideology and history. It will encourage analytical skills related to visual literacy and its correspondences with the world framed as a structured text, familiarizing students with the techniques and grammar of films.

#### CC-6: 19th Century Poetry

Course Outcome: The close of the eighteenth century saw a wide-moving and restless spirit of change and new creation in Europe. The French revolution was the most flamboyant manifestation of this spirit. The nineteenth century movement championed not only political liberty but also freedom from conventions, social and institutional restrictions. This course will make the students



familiar with asthmatic responses to the quest of freedom, as aesthetic forms liberated themselves from the rigid orthodoxies of eighteenth century forms of poetry and their expression.

#### CC-7: Indian and British Criticism

Course Outcome: Indian Literary Theory will engage students in understanding the intricacies of the craft of aesthetic production affecting a decolonized recovery of the importance of Indian aesthetic traditions. This course will provide insight into the historical development of criticism from Aristotle to the advent of theory in the twentieth century.

#### CC - 8: Modern and Contemporary Critical Theory

Course Outcome: Modern and Contemporary Critical Theory is integral to how literary criticism is produced in the late 20th and 21st centuries and this form of critical literacy enhances a nuanced interpretation of literature's scope, content and form. This form of interdisciplinary critical literacy fosters different ways of thinking about and reading literature and culture. Students will find these exciting approaches immensely empowering in shaping thoughts on different ways in which literature may be read.

#### CC - 9: 19th Century Fiction and non-fiction

Course outcomes: The study of Victorian literature should foster the understanding of the gradual establishment of democracy, the utilitarian attitude of striking material prosperity, the expansion of the British Empire, the effects of the aftermath of the industrial revolution, and the impact of Darwin's theory of Evolution that influenced the literature of the age.

Semester 3 (Odd Semester)

#### CC – 10: Modern and Contemporary Poetry

Course outcomes: The striking features of Modernism in literature are a spirit of disillusionment, reflections on the complexities of modern urban life, importance of the unconscious mind, recognition of impossibility of an absolute interpretation of reality and a feeling of ideological uncertainty. This course will help the students understand the intricacies of the aesthetic production of the age.

#### CC – 11: Modern and Contemporary Drama

Course outcomes: Modern drama is born out of responses to a changing world order, family structure, existential crisis and absurdity of life and totalitarian regimes and surveillance. Students will appreciate the social, historical, cultural and political matrix that was expressed in innovative forms using multiple dramatic techniques.

#### CC – 12: Modern and Contemporary Fiction

Course outcome: This course will make the students understand fiction from different parts of the world covering multiple themes, styles, ideologies, persuasions and experiences.

#### CC – 13: Indian Literature in English & in Translation



Course outcome: Decentering English literature from metropolitan Britain and the creation of visibility of Postcolonial literatures from India that is inclusive of identities of multiple constituencies

is a significant national project. Students will be able to appreciate different genres of writing with which cultural affiliations are likely to be immediate.

CC – 14: Linguistics

Course outcome: Study of Linguistics will enable the understanding of the structural and generative aspects of language, and social, cultural, historical factors through which linguistic and

language based context is often determined.

Semester 4 (Even Semester)

CC – 15: Elective Course (EC) 1

a) New Literature

Course outcome: Drawn from different geographical locations, cultures and people's aspirations, these writing encourages students to appreciate diversities across borders. These insights will foster

understanding and empathy for people in an act of mention experience of history, culture and politics.

b) American Literature

Course outcome: In the American Scholar address, Emerson said 'For far too long have we listened

to the courtly muses of Europe' ushering in a distinctive character of American writing across genres.

This course offers a broad sample of American writing covering different forms of aesthetic expressions.

c) Women's Literature

Course outcome: Avoiding any claims to "Universal women's experience", the content of the course

includes a multicultural cross-section of women's experience as women authors and members of diverse social groups. The objective is to analyze race, class, social identity, ethnicity, age, and the

intersections of these categories.

d) 16 th and 17 th Century Prose

Course outcome: This course will encourage students to appreciate Wisdom literature, and in terms

of style as fountainhead of English prose covering satire, political philosophy, utopian Imagination

and spiritual reawakening through prison literature.

e) Cultural Studies

Course outcome: Cultural Studies is an interdisciplinary engagement with culture. It will develop among students the understanding of relationships between cultures as they intersect and interact in zones of contact. It will also make them aware of the power relations between the dominant and

the disadvantage, the manufacture of consent that ensures conformity. Stuart Hall states the Cultural Studies in Britain was born as political project that analysed post war advanced capitalist culture.

CC – 16: Elective Course (EC) 2



a) Translation Theory and Practice

This course will explore different approaches to translate and help to develop an understanding of

the links between theory and practice. It will enable students to acquire an awareness of the wider

cultural, ethical and professional contexts of translation and equip them to later specialize as professional translation.

b) Partition Narratives

Course outcome:

c) Writing in English from Bihar

Course outcome:





## 8. M.A. Hindi

### Program Outcome –

On completion of the program, students will have in-depth understanding of Hindi Literature, the relation between society and literature and role played by Hindi literature in past and present. They will develop proficiency in writing official writings and functional Hindi. Students will have mastery over the trends, movements and literary forms of ancient and modern Hindi Literature, new literary forms, media writing, electronic media and various new movements in Creative Writing.

1. On successful completion of the Programme, the students will be skilled in both oral and written communication.
2. They will be familiar with the conventions of diverse textual genres including fiction, non-fiction, poetry, autobiography, biography, Journal, films, plays, editorials etc.
3. This course helps the students to have a better understanding of the society. They are able to comprehend human behaviour with all sorts of causes and effects, which helps them to become good human beings.
4. Other career avenues open for Hindi graduates are pursuing Master's Degree, Journalism, Media, B.Ed., Nursery Teachers Training and sitting for competitive exams. Students can work anywhere in India, as they know Hindi – Our National Language. In many other countries also, Hindi is used as second Language. So they can easily gain employment in those countries.



## 9. M.A. History

### Program Outcome –

On the completion of the program, students will be able to analyze socio-economic, religious and political conditions of India through the ages, identify the important events of history of Bihar, to have a clear picture of world History and its impact in global economic environment and social contexts. They will have requisite knowledge about the developments of art, architecture and various styles of architecture in India.

### SEMESTER I

#### CC-1 Historiography

##### Course Outcomes:

- 1 Students were able to understand that how history is studied and written by analysing inter-related political, social, economic and cultural process.
- 2 Students applied techniques and methods like analytical operation for identifying the primary and secondary sources.
- 3 Students got exposure to research methodology and presentation.
- 4 Students were able to analyse and evaluate of historical information from multiple sources.
- 5 Students developed critical thinking through evolution of the record of the past and understood how historians and others have interpreted it.
- 6 Students should be able to get the knowledge to modern expect of History writing.
- 7 They should skilled in writing of Indian and Western History.

#### CC-2 History of early civilizations and medieval world

##### Course Outcomes:

1. The student will learn reconstructing Ancient Indian history, pre-historic cultures, aspects of the Harappan civilization, the Aryan problem, technological and economic developments, social stratification, political relations, cultural achievements, religious and philosophical developments in the period.
2. Students will be able to understand the origin and development of different Ancient Civilizations which would provide them an idea to develop a linkage between ancient periods and contemporary situations.

#### CC-3 Early medieval India (600 – 1200 A.D.)

##### Course Outcomes:

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

1. Acquire knowledge about the evolution of human society, and transformation of ancient civilization like Mesopotamia, Greece, China, Roman, and Medieval Europe.
2. Acquire knowledge about the origin, features, nature and class composition of various societies.

#### CC-4 Science and Technology in India



Course Outcomes:

After studying this lesson the students will be able to:

1. Know the origin and development of astronomy in ancient India;
2. Understand the origin and growth of mathematics in ancient India.
3. Assess the growth of engineering in ancient India.
4. Identify the evolution and growth of medicine in Ancient India.
5. List the contributions of India to the world in the field of Mathematics and other Sciences.

SEMESTER II

CC-5 History of Ideas

Course Outcomes:

1. Students can able to get the knowledge of thoughts of ancient middle period.
2. Students can know about political thought and colonialism.
3. Students can know about religious, economic and political thoughts of various periods.

CC-6 History of Europe and Modern world (1919-2000)

Course Outcomes:

- They can get the knowledge of causes and result of second world war.
2. They should able to cooperate with globalization.
- They can get the knowledge of modern industrialization of world.
4. Students will study the economic and social condition of Europe.

CC-7 History of Bihar

Course Outcomes:

1. Students will study the economic, political and social condition of Bihar.

CC-8 Society and Economy in Indian History

Course Outcomes:

1. Students should be able to get knowledge of literature religious science, psychology and social politics and historical knowledge of ancient tradition.
2. Students should be able to get knowledge of ancient tradition.
3. Students should be able to get knowledge of ancient tradition about religious thought tradition.

CC-9 Contemporary India

Course Outcomes:

1. Student should able to learn the tax, Trade, economic development and industry finance system in India
2. They get knowledge of Mahalwari system by agriculture trade.
3. They get knowledge of land reform and tax system.

AEC-1: Archive and Museum

Course Outcomes:

1. Students will learn new kinds of Archive and Museum through case study.



### SEMESTER III

#### CC-10 Indian Historian

##### Course Outcomes:

1. Students will get depth knowledge about liberals, Marxists, Feminists and Nationalist Historians.

#### CC-11 South Asia 1950 Onwards

##### Course Outcomes:

1. Students will explore Indian Diaspora, SAARC, Globalization and its impacts.

#### CC-12 United State of America 1860-1990

##### Course Outcomes:

1. Students will able to enhance their knowledge about history of America.
2. Students will able to understand the causes of civil war and People's Movement.

#### CC-13 National Movement in India

##### Course Outcomes:

1. Students should be able to know to get freedom movement in India.
2. They should able to get knowledge of Indian economic, social, policies situation in British period.
3. They should able to get knowledge of development education policy, science technology

#### CC-14 Revolution and Revolutionary Thoughts

##### Course Outcomes:

1. Students will understand Gandhian Ideology, Russian revolution, Chinese revolution and American Revolution.

#### AECC-2

##### Course Outcomes:

1. Enhance the knowledge about Ambedkar, Gandhi, and other reformers.

### SEMESTER IV

#### Elective Course (EC)-1

#### CC-15 Popular Movement

##### Course Outcomes:

1. After reading this paper properly student will not only understand the tribals but they will also know the solution to the problems found in.
2. Students should able to get the knowledge and understand the contribution of women in freedom movement, film, media and parliament.
3. They can understand the situation of women after independence.
4. Students should able to get the knowledge of revolutionary movement.

#### Elective Course (EC)-2



## CC-16 History of Expression

### Course Outcomes:

1. Students will get depth knowledge about Media, Human Rights and Disaster Management.

## DSE -1

### PUBLIC ADMINISTRATION

### Course Outcomes:

1. Students will understand the integrity in Administration in context of corruption and redressal of citizen's grievance.

## GE -1

### Social problems in India

### Course Outcomes:

1. Students will able to solve the social issue in India.



## 10. M.A. Philosophy

### Program Outcome –

At the completion of the program, students will be able to understand Indian and western philosophy including Vedas, and Upnishads, Bhagvad Gita, Samkhya, Yoga, Nyaya, Vaishesika, Purva Mimansa, Advaita, Dvaita, ideas of Socrates, Plato, Descartes, Hume, Kant, Hegel Marx, John Stuart Mill etc. It will help in understanding basic concepts of symbolic logics and will lay foundation for researches.

### SEMESTER I

#### Phil CC-1 Indian Epistemology

##### Course Outcomes:

1. Students will be introduced to the basic issues in epistemology through original readings.
2. Students will become acquainted with the problem of skepticism and solutions to it.
3. Students will become acquainted with issues regarding the foundations of knowledge.
4. Students will be acquainted with externalist aspects of epistemology and also learn about Indian epistemology.

#### Phil CC-2 Contemporary Indian Philosophy

##### Course Outcomes:

1. The outcome of the course is to makes students aware about the Modern Indian thinkers i.e. Vivekanand, Rabindranath Tagore S. Radharkshnan, Aurobindo, Dr. Ambedkar and Iqbal.

#### Phil CC-3 Ancient, Greek & Modern Philosophy

##### Course Outcomes:

1. To introduce the evolution of thought from early Greek to medieval and modern Philosophy.
2. To initiate a critical thinking on the evolution of the nature of metaphysical and epistemological traditions.

#### Phil CC- 4 Indian and Western Ethics

##### Course Outcomes:

1. Aims to introduce students to a type of ethics which is not about principles and what action to undertake but about identifying the logical rules that underlie moral arguments and action and about recognizing the basic structure of ethical theories.
2. Helps students to identify the nature of moral language and terminology. This skill enables students to understand the fine nuances of legal language particularly pertaining to jurisprudence.
3. Introduces students, through readings, to different arguments used by philosophers in support of moral judgment they adopt.
4. Enables students to recognize and truly understand philosophical methodology and argumentation methods employed by this form of ethics.
5. Makes students aware of how contours pertaining to epistemology, metaphysics, semantics, psychology feed into our understanding of moral concepts.

### SEMESTER II

#### Phil CC-5 Western Logic



Course Outcomes:

1. Students will develop interest in logic both as a method of derivation and as a way of finding structure in language.
2. Interest will be generated in the relation between natural language and formal languages.
3. Students will become adept at truth tables, and methods of derivation like conditional proof, indirect proof, truth trees.
4. Students will understand the significance of the logics of necessity and possibility and will learn the debates around modalities in philosophy.

Phil CC- 6 Western Philosophy

Course Outcomes:

1. This course starts with the advent of modern Western Philosophy, from Descartes down to Kant, centering on classical theories of Rationalism, Empiricism and Criticism.
2. The principal agenda is to introduce and substantiate the problem whether human cognition develops from either of two mutually independent faculties of sensibility or understanding, or from a synthesis of the two.
3. On the one hand it follows a historical and chronological development of ideas.
4. On the other hand this historical survey is placed in a tenor of a logical transition from one theory to the other, coupled with critical evaluation.
5. The course is intensive in so far as it focuses on a few philosophers – Descartes and Leibnitz – the archetypal of rationalists; Hume – the ideal representative of empiricism; and is finally rounded off by Kant's Criticism.
6. Within its theoretical framework it also incorporates the philosophical foundations of a sound environmental ethics as well as a global humanistic approach.
7. E.g. the pan-psychism of Leibnitz showing the unreality of spatial boundary sensitises students to the immaculate blend of the animate and the inanimate; while Kant's claims about all humanity for times operating with the same a priori forms of cognition opens up a vast expanse of cross-cultural communication and empathy.

Phil CC- 7 Gandhian Philosophy

Course Outcomes:

1. This course will attempt an in-depth study of two basic concepts in Gandhi's writings: Ahimsa and Satya.
2. It will explore the significance of anekantavada in the context of these two concepts and also examine the relevance of these concepts in promoting a non-coercive social order.
3. It also attempts a comparative reading of Gandhi's thoughts with that of Mill and Kant in order to



highlight the non-Eurocentric nature of Gandhi's thought

Phil CC- 8 Indian Metaphysics

Course Outcomes:

1. The outcome is to cultivate in-depth knowledge of Indian Metaphysics, which contain the unique concept of the world, self and the absolute reality.

Phil CC- 9 Indian Linguistic Trends

Course Outcomes:

1. To study if language constitutes thought.
2. To explore if the effect of language is merely to influence the nature of thought, if not constitution.
3. To explore if there exists universality or relativity of thought and conceptualization.
4. To explore the detailed cognitive processes involved in language influencing thought.
5. To explore the possibility of non-linguistic thought.

SEMESTER III

Phil CC-10 Contemporary Western Philosophy

Course Outcomes:

1. This course is offers the critical understanding of modern western philosophy. These thinkers were not only contested the canons of western philosophy but also make us aware of other ways of reading western philosophy. The methodologies and tools provided by these thinkers have its own philosophical significance and political implication.
2. Lays out the internal difference among the principal trends of Analytic Philosophy viz. Logical Atomism, Logical Positivism, and Moorean approach to analysis.

Phil CC-11 Western Analytical Philosophy

Course Outcomes:

1. Introduces the basic notion of language-analysis as a tool against speculative metaphysics.
2. Incorporates the main critiques of W V O Quine and L Wittgenstein against Logical Positivism and Logical Atomism.
3. Sensitizes students to the very notion of analysis - its importance and drawbacks.
4. Overall enables students to develop an insight into the relation between language and reality.

Phil CC-12 Indian Logic

Course Outcomes:

1. To study the classical Problem of Indian Logic.
2. To study the problems associated with the definition, nature, factors (pramā, prameya, pramatr, pramāṇa, and pramāṇaphala), and its process.





3. To study the significance of classical Indian Logic.
4. To explore philosophical accounts of Indian Old and New Logic.

#### Phil CC-13 Philosophy of Religion-I

##### Course Outcomes:

1. To familiarise the students with the nature and scope of the philosophy of religion.
2. To acquaint the students with religious epistemology
3. To obtain an understanding about the dynamic of religious experience.
4. To understand the nature and function of religious language
5. To enlighten the students about the scope and limitations of religious hermeneutics.
6. To develop critical perspectives on religion and to cultivate religious tolerance.

#### Phil CC-14 Philosophy of Religion-II

##### Course Outcomes:

1. Improved Understanding of 'Religion' in general and 'Dharma or Dhamma' in specific Indian Context. This will remove many prevalent misunderstandings.
2. Make students understand the rational aspect of various religions and specify their roles in human life
3. This course will help students to develop the outlook of equality and feeling of respect for religious 'Other' in their behaviour
4. Will make students and teachers engage in finding better models of secularism, morality and human actions.

#### SEMESTER IV

#### Phil CC-15 EC-I (Group A) Sacred Text

##### Course Outcomes:

1. To develop the ability to understand, interpret, and contextualize Hindu & Buddhist sacred texts.
2. To gain an appreciation for why these Hindu & Buddhist texts have endured as "classics".
3. To develop critical interpretive skills by reading key works of scholarship whose authors attempt to translate, interpret, and situate these texts within their original cultures and their reception in the west.
4. To demonstrate effective writing skills with the ability to craft a persuasive argument in defence of a thesis by using and analysing evidence from primary and secondary sources.

#### Phil CC-16 EC-II Project Work/ Dissertation

##### Course Outcomes:

1. Acquire the knowledge about philosophy.

#### Phil CC-15 EC-II (Group B) Philosophy of Vedanta and Sankhya

##### Course Outcomes:

ESTD : 1952



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A Constituent Unit of B.R.A. Bihar University, Muzaffarpur



1. Understand the philosophy of Vedanta and Sankhya.  
Phil CC-16 EC-II

Course Outcomes:

1. To know how to prepare the project.



## 11. M.A. Political Science

### Program Outcome –

On the completion of the program, students will be able to understand the comparative politics, Indian Government and politics, Modern Political Ideologies, theory and practice of diplomacy, manner in which international systems work, Political Economy, social movements and contemporary concerns. It will lay solid foundation to carry out researcher in various spheres of Political Science.

### SEMESTER I

#### MPOLCC-1 Western Political Thought

##### Course Objectives:

The purpose of this course is to generate a political awareness among the students about the distinctive features of Western political thought. Through this course, student is expected to learn political theorising political reflections and argumentations by studying how it has been done by the masters of western political ideas. They will be examined in their context with a view to understand the nature of their political vision and political arguments. Besides, the course will highlight their assumptions about and prescription for human beings, society and politics.

#### MPOLCC-2 Political Institutions and Practices in India

##### Course Objectives:

Studying political institutions is indispensable for an adequate understanding of democracies. While institutions are often studied as parts of the state apparatus, this course hopes to place them within the shared common space of democracy, which is created by the exchanges and interactions among institutions. The manner in which institutions are constituted and function in relation to each other, and in the context of the wider social and political processes, are therefore, crucial for making sense of the democratic practices of the state. While the focus in this course will be on contemporary institutional forms and practices, their historical underpinnings, will also be studied through an exploration of the debates that endure from the past.

#### MPOLCC-3: Comparative Politics: Concepts and Models

##### Course Objectives:

This paper deals with the theoretical approaches to the study of Comparative politics. The paper intends to highlight on variations in systematic characteristics and processes, to equip us with a sound grasp of methodology of comparison and to enable us to understand alternative theoretical models and explanations. It analyses in a comparative way, a fundamental grasp over various theories and explanations regarding political development in the evolving countries. The paper concentrates different theories specifically of development, on some of the major paradigms or world views, which have elicited different theories of development, underdevelopment in the study of Comparative politics.



#### MPOLCC-4: International Relations: Theories and Approaches

##### Course Objectives:

This paper deals with the different approaches and methods of studying International Relations.

It

covers state centric, global centric as well as multi-centric world views. The intention is to provide a

solid background to students about theoretical aspects of International Relations. The paper, therefore, covers traditional, modern and post-modern approaches of studying International Relations as well as its key concepts.

#### MPOL AECC-1 (Ability Enhancement Compulsory Course)

A. Environmental Sustainability &

B. Swachha Bharat Abhiyan

##### MPOLCC-5:

##### Course Objectives:

1. Understand the idea of clean and healthy environment.
2. Promote the idea of Swachh bharat through practice.
3. Identify the ways of promoting sustainable development.
4. Analyze the relationship between Environment, ethics and development.

#### SEMESTER II

#### MPOLCC-5: Introduction to Public Administration

##### Course Objectives:

This course is introduced the students to the elements of Public Administration. This would help them to obtain a sustainable conceptual perspective on Public Administration. In addition the course

introduces to students to the growth of such institution devices as to meet the need of changing time.

#### MPOLCC-6: Foreign Policy and Major Powers

##### Course Objectives:

This paper provides a theoretical framework to the policies that major powers follow in world affairs. The paper provides a background to the problem of global governance and factors affecting

them. The paper takes a detailed view of foreign policy pursued by the Parliament Five (P-5) countries as well as other nations like Germany and Japan, which due to their unique placement in

world influence the global political, security and strategic affairs. This paper provides a complete overview of the foreign policies of major powers and helps in understanding and predicting the stance of the major powers of the world in contemporary policies and future.

#### MPOLCC-7: Contemporary Issues In International Politics

##### Course Objectives:



This paper deals with practical aspects of International Relations. It provides insights into significant issues that are largely the legacies of the cold war era. It also identifies some of the other new problem areas that need critical consideration in the study of current international relations. The basic objective of this course is enable the students to graduate from the basics of the discipline to a higher level of critical analysis of the issues involved in the study and research in International Relations.

#### MPOLCC-8: Indian Political Thought

##### Course Objectives:

The purpose of this course is to generate a critical awareness among the students about distinctive features of tradition of socio, religious and political thought in India. A focal theme of this course is the Indian political, philosophical responses to western modernity and imperialism. The course will also focus on the continuity and dis-continuity between traditional Indian socio-political ideas and modern Indian Political ideas. Another focus will be on extent to which the modern Indian Political thought is a rejection, derivative, imitation or innovative transformation of modern, Western political thought.

#### MPOLCC-9 Political Processes and Governance in India

##### Course Objectives:

The social and economic process that underlie the functioning of the political system in India are the focus of this paper. One needs to understand that the Indian Constitution was intended to provide a framework for a modern, secular and democratic society and simultaneously perform the onerous task of bringing about development in a relatively impoverished and backward country. This hope and subsequent relative success and failure have to be analysed in detail. It also to be examined the experience of the last six decades and the new challenges ahead in the context of globalization, liberation, and greater democratic expansion from below.

#### MPOL AEC -1: Computers & ICT, or Life and Communication Skills

#### Development, Or Yogic Studies

##### Course Objectives:

1. To develop communication skills of students.
2. To develop writing skill of students.
3. To develop expertise in the utilities of ICT in the transmission of knowledge.
4. To acquire the knowledge of yoga, yogic lifestyle and health as well as asana.



### SEMESTER III

#### MPOLCC-10: Political Theory

##### Course Objectives:

This course seeks to introduce the students to major approaches in theorizing political life and to the major concepts in the discourse of politics. The course tries to make the students understand how the social and power relations are theorized by various theoretical projects. Political theories, being socio psychological structures; the major aim of the course would be to make the students understand and analyze the context of the emergence of the theoretical projects/structures. The politics of each such theoretical project would be critically evaluated.

#### MPOLCC-11: Research Methodology

##### Course Objectives:

This paper is a basic introduction to the process and methods of empirical research for achieving scientific knowledge in Political Science. An attempt is made to relate social science research

methods to other courses in syllabus of Political Science. The criticisms of different methods and schools are included. The two seminal works of method for Political Scientists those of Karl Popper

and Thomas Kuhn are also included along with other important aspects of research methods. There

is a need to teach the method of data collection, sample survey, preparation of bibliography and questionnaire, writing of a report, dissertation and thesis.

#### MPOLCC-12: State Politics in India with Special Reference to Bihar

##### Course Objectives:

The Indian Politics is multi-cultural and every state in India is a microcosm of Macro Indian politics.

We see different trends in State Politics. In this paper we would like to inform the students as to how

the states influence the Indian federal system. Bihar is a unique state whose Politics has always set

the trend of Indian Politics. It has been a leader in Pre-independence national movement, has thrown up alternative to Congress dominance, raised the banner of revolt against Emergency.

Politics of crime, politicizations of criminals and use of caste and community for political gains have

seen many phases of ups and downs. It is fascinating for a student of Politics to learn that despite immense potential for development Bihar has remained backward due to apathy of its Political leaders.

#### MPOLCC-13: India's Foreign Policy

##### Course Objectives:

India's foreign policy reflects the philosophy of India as a sovereign democratic nation and the self-

image and role she conceives for herself in the global policies. The focus of this paper is the theoretical perspective of the role of compulsions, constraints and conditions, which actually has



framed the country's foreign policy for the past five decades. Since it was Pt. Jawaharlal Nehru, who analysed these compulsions and constraints and accordingly laid the foundation of India's foreign policy, his role and India's conduct of external relations during his tenure as prime Minister will be discussed as a backdrop to India's foreign policy during the post Nehru era in the next semester.

#### MPOLCC-14: Political and Social Movement

##### Course Objectives:

Political and social movements are a driving force in political development and social change. They

break the status quo in the system by challenging the maladies of the system and pressurising the government to follow the dictates of the people. This paper aims to inform the students of the meaning and importance of the Political and Social movements and to let them know the reasons and causes for their success, failure and impact on future course of state and society.

#### MPOL AECC-2: Human Values & Professional Ethics and Gender Sensitization

##### Course Objectives:

1. Understand the moral issues and basic principal of Ethics and Morality.
2. Identify the role of gender in social, political and economic arenas in contemporary time.

#### SEMESTER IV

#### MPOL EC:- 1 (Discipline Specific Elective) Indian Administrative System

##### Course Objectives:

The purpose of this paper is to acquaint the students with the knowledge of administrative pattern in the Indian federal structure together with its historicity. The course details basic parameters of the Indian Administrative System and the emerging trends.

#### MPOL EC:- 2 (Discipline Specific Elective) Introduction to International Law

##### Course Objectives:

International law is usually defined as rules that govern the conduct of states in their relations with

one another. It traces its origin and development to the contribution of Hugo Grotius. This paper studies the nature, content and the different aspects of international Law pertaining to legal principles of recognition, jurisdiction. Law of Sea, diplomatic immunities and privileges, treaty of

obligation and crimes against humanity. The distinction between international law and what is termed as domestic jurisdiction of nation states needs to be explained and analysed in order to understand the dynamics of international system and the relationship between nations.

#### MPOL EC:- 3 (Discipline Specific Elective) Administrative Theory

##### Course Objectives:

1. Understand the historical evolution of Public Administration with focus on important Classical and contemporary administrative theories.
2. Comprehend the concept of 'Public Policy' and 'Governance'.

#### MPOL EC:- 4 (Discipline Specific Elective) International Organisation

##### Course Objectives:

This paper has been framed to make students aware with the evolution and the development of



international organizations from its inception till present times. It focuses on the problems that confront international organizations and constraints within which they function. An in-depth study

of the structure and functioning of the United Nations needs to be undertaken and analyzed from the perspective of whether it has lived up to the expectations, hope and aspirations of its architects.

In addition, the paper will throw light on the shift from political and security considerations to social,

economic and humanitarian concerns following the end of the cold war and UN's role in facilitating

these changes.

MPOL DSE-1 Discipline Specific Elective Paper-1 Local Government in India

Course Objectives:

1. Understand the theoretical and practical approach to the Indian Constitution.
2. To analyze the functioning of different Local governmental institutions in India.

MPOL GE-1 (Generic Elective) Human Rights

Course Objectives:

1. Comprehend the basic concept of Human Rights.
2. Identify various legal frameworks related to human rights in India.





## 12. M.A. Psychology

### Program Outcome-

On the completion of the course, the students will have critical understanding of measurement issues and techniques in psychological enquiry. It will provide strong research oriented theoretical and practical foundation in recent advances in psychology to the students. The will learn the application and contextual interpretation of from psychological measurements students will be able to have in-depth understanding of cognitive processes in terms of current theories models and application.

### Semester I (Odd Semester)

#### CC - I: Advanced General Psychology

##### Course Outcomes:

#### CC- 2: Advanced Social Psychology

##### Course Outcomes:

#### CC - 3: Advanced General Psychology

##### Course Outcomes:

1. Introduce the basics of scientific research outlining the steps in conducting, writing, and reporting research.
2. Acquaint the students with paradigms of research.
3. Integrate the knowledge about sampling and research design.
4. Assess the different quantitative and qualitative research methods.

#### CC – 4: Experiments in Psychology

##### Course Outcomes:

1. The course aims to conduct experiments and testing based on paper.

### M.A. Semester II (Even Semester)

#### CC - 5: Cognitive Psychology

##### Course Outcomes:

1. Explore the practical implications of cognitive processes in human performance.
2. Facilitate the learning of traditional and emergent fields of applied cognitive psychology.
3. Understand-brain-behaviour relationship in day to day life.
4. Appraise the processes in language development, problem-solving and decision-making memory.

#### CC – 6: Neuropsychology

##### Course Outcomes:

1. Know different brain regions responsible for psychology attributes.
2. Know different brain regions and related disorders.
3. Understand the neuropsychological relation to psychological disorders of attention, learning and motivation.
4. Relate the methods in neuropsychological, neuroplasticity and its significance.

#### CC – 7: Psychopathology

##### Course Outcomes:

1. Present the various classifications of psychopathology.
2. Throw light upon the pathologies.

#### CC – 8: Statistics for Psychology

##### Course Outcomes:

1. Examine the statistical rigors in designing research and processing data.



2. Understand parametric and non-parametric tests.
3. Relate the use of technology in research.

CC – 9: Psychological Assessment

Course Outcomes:

1. Introduce applications and report writing in practice.
2. Understand and analyse the different aptitude test and personality test.

M.A. Semester III (Odd Semester)

CC – 10: Health Psychology

Course Outcomes:

1. Understand the need of health psychology.
2. Examine the Psychological factors of hypertension, psycho-social factors of AIDS and Cancer.

CC – 11: Advanced Educational Psychology

Course Outcomes:

1. Understand the nature of educational psychology, range of disability and psychological vulnerability and distress in schools.

CC – 12: Counselling Psychology

Course Outcomes:

1. Acquaint student with theoretical basis of counselling skills, counselling models, counsellor's personal and professional issues and growth and ethical and legal issues.
2. Understand assessment, appraisal and special concerns in counselling.
3. Integrate the issues of suicide, substance abuse, and child abuse in counselling.
4. Reflect upon community mental health.

CC – 13: Human Resource Management

Course Outcomes:

1. Acquaint the students with application of human resource functions in organizations.
2. Understand the role of Organizational psychologists in hiring, supporting employees, performance appraisals in order to achieve the strategic goals of the organization, reduced turnover, increased productivity, and improved employee engagement.

3. Predict the training needs and methods in organizations.
4. Assess concept and processes of managing global human resources.

CC – 14: General Counselling skills

Course Outcomes:

1. Understand the neuropsychological relation to psychological disorders of attention, learning and motivation.
2. Understand assessment, appraisal and special concerns in counselling.

M.A. Semester IV (Even Semester)

Elective course -1 & 2

CC – 15& 16:

A. Specialisation in Organisational Behaviour papers 1&2

Course Outcomes:

1. Introduce the nature, scope, and approaches in organisational behaviour.
2. Develop an understanding of individual behaviour in organizations.
3. Understand the group behaviour and leadership in organisations.
4. Gather knowledge about organisational change and development to estimate the challenges of organizations.

B. Specialisation in Clinical Psychology



Course Outcomes:

1. Review the classic and contemporary thinkers in clinical psychology.
2. Interpret psychotherapy: concept, goals, scope, and process of assessment.
3. Understand the application and implementation of different psychotherapy.
4. Illustrate the current trends and future directions in clinical psychology.

C. Specialisation in Psychometrics

Course Outcomes:

1. Highlight the antecedents and current trends in psychological assessment.
2. Express the steps of test and scale construction.
3. Illustrate the applications of psychological testing in different areas.
4. Outline the professional, moral and ethical issues in testing.

D. Specialisation in Positive Psychology

Course Outcomes:

1. Highlight the concept of positive psychology.
2. Understand the positive psychology in Cultural and Social context.

E. Computer applications in Psychology

Course Outcomes:

1. Acquainted with use of software in psychology.



### 13. M.A. URDU

#### SEMESTER I

#### CC-1 (DASTAN)

##### Course Outcomes:

1. At the completion of this course, the students will be able to understand and appreciate the classical poetry and prose in the context of early Urdu literary traditions.

#### CC-2 (NOVEL)

##### Course Outcomes:

1. At the completion of the course the students will be able to have an in-depth knowledge of the history and development of Urdu novel.

#### CC-3 (MUKHTASAR AFSANA)

##### Course Outcomes:

1. At the completion of this course the students will be able to have in-depth knowledge of the history and major text of Urdu mukhasar afsana.

#### CC-4 (GHAIR AFSANVI NASIR)

##### Course Outcomes:

1. At the completion of this course the students will be able to have in-depth knowledge of the history and major text of Urdu ghair afsanvi nasir.

#### SEMESTER II

#### CC-5 (URDU GHAZAL)

##### Course Outcomes:

1. At the end of this course, the students will be able to have in-depth knowledge and able to appreciate the basic changes and transition in modern Urdu Ghazal.

#### CC-6 (URDU NAZM)

##### Course Outcomes:

1. At the completion of the course the students will be able to have an in-depth knowledge of the history and development of Urdu Nazm.

#### CC-7 (MASNAVI)

##### Course Outcomes:

1. At the completion of this course the students will be able to have in-depth knowledge of the history and major text of Urdu masnavis.

#### CC-8 (Qaseeda & Marsia)

##### Course Outcomes:

1. At the completion of this course the students will be able to have in-depth knowledge of the



history and major text of Urdu Qasida & Marsia.

CC-9 (Tahqueeqe)

Course Outcomes:

1. At the completion of this course the students will be able to have in-depth knowledge of the history and major text of Urdu tahqueeqe.

SEMESTER III

CC-10 (Tanqeed)

Course Outcomes:

1. At the completion of this course the students will be able to have in-depth knowledge of the history and major text of Urdu tanqeed.

CC-11 (Tahreekat-o-Rujhanat)

Course Outcomes:

1. The students will be able to have a broad overview on poetry, fiction and criticism.

CC-12 (Bihar Ka Adabi Dabistan)

Course Outcomes:

1. At the completion of this course, the students will be able to understand and appreciate Bihar mein Urdu Shaeri with special reference to Rasikh.

CC-13 (Lesaniyat aur Arooz-o-Balaghat)

Course Outcomes:

1. At the completion of this course, the students will be able to understand and appreciate Balaghat.

CC-14 (Study of IQBAL & GHALIB)

Course Outcomes:

1. To enable the students to critical understanding and appreciation of Iqbal & Mirza Ghalib and his times. It will also include the study of Socio-Cultural, Historical, Political background of Iqbal & Ghalib and his times.

SEMESTER IV

CC-15 EC-1 (A) (Asari Adab)

Course Outcomes:

1. At the completion of this course, the students will be able to understand and appreciate Asari adab.



EC-1 (b) (Sahafat)

Course Outcomes:

1. At the end of this course the student will be able to have a detailed knowledge and would be able to appreciate the major trends of Urdu sahafat.

EC-1 (c) (Tarjuma Nigari)

Course Outcomes:

1. At the end of this course the student will be able to have a detailed knowledge and would be able to appreciate the major trends of Urdu Tarjuma Nigari.

EC-1 (d) (Tasawwufi)

Course Outcomes:

1. At the end of this course the student will be able to have a detailed knowledge and would be able to appreciate the major trends of Urdu Tasawwufi.

EC-1 (e) (Drama)

Course Outcomes:

1. At the end of this course the students will be able to have an understanding of the history of Urdu Drama and study and appreciate the trends of major Urdu Dramas.

CC-16 EC-2 (Project & Presentation)

Course Outcomes:

1. Student will be able to prepare the project & presentation on given assignment.

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 (Dr. Ravi Kumar Sinha)  
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