



**SAFI INSTITUTE OF ADVANCED STUDY (SIAS)**

# **COURSE OUTCOMES (CO)**

**INTERNAL QUALITY ASSURANCE CELL  
(IQAC)**



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# **PG PROGRAMMES**

## **M. Sc. FOOD SCIENCE AND TECHNOLOGY**

### **COURSE OUTCOME**

#### **SEMESTER I**

##### **FST1C01 FOOD MICROBIOLOGY**

###### **COURSE OUTCOME**

**CO1** Knowledge on historical perspective of Microbiology and idea on different types of microscopic techniques and its importance.

**CO2** Better understanding on the general morphology, cytology, classification of microorganisms and importance of bacteria, fungi, virus and algae.

**CO3** Information regarding culture media and different culturing techniques and brief study on food borne viral diseases, their control and preventive measures.

**CO4** Awareness on bacterial genetics, gene transfer mechanisms and genetic recombination in microbiology.

**CO5** Knowledge on growth of microorganisms, quantification and control with special emphasis to sterilization techniques.

**CO6** Study about the microbiology of food, water, animal and plant food products, better understanding of microbes in food spoilage and food preservation techniques.

**CO7** Understanding the food borne illness and also about the beneficial aspect of microorganisms giving special importance to fermentation process.

###### **FOOD MICROBIOLOGY PRACTICAL**

###### **COURSE OUTCOME**

**CO1** Expertise in basic techniques of microbiology

**CO2** Knowledge on pure culture techniques, microbial growth, culture media, staining techniques, culturing methods and conditions affecting it.

**CO3** Understanding on microbial analysis of food and utensils.

**CO4** Knowledge in relationship between food and microbes, techniques used in food processing

## **FST1C02 FOOD CHEMISTRY AND ANALYSIS**

### **COURSE OUTCOME**

**CO1** Understand and describe the chemical structure & classification of food components

**CO2** Analyse the relationship between the composition of the individual food components and their chemical and physical properties

**CO3** understand about food emulsion, Food Pigments & Flavours

**CO4** Illustrate the principle and mechanism of analytical instruments.

**CO5** Develop an understanding and methodologies of instrumental techniques in food analysis

## **FOOD CHEMISTRY AND ANALYSIS PRACTICAL**

### **COURSE OUTCOME**

**CO1** Describe bio-chemical analysis of food components

**CO2** Developing practical skills of proximate & basic food compositions including carbohydrates, proteins, fats and minerals.

**CO3** Determination of Moisture: Hot air oven and toluene distillation methods

**CO4** Determination of ash content

**CO5** Qualitative and Quantitative analysis proteins and amino acids: Ninhydrin test, Biuret test, Lowry's Method of estimation, Kjeldhal's methods

**CO6** Qualitative and quantitative analysis of carbohydrates: Molisch's test, Benedict's test, Barfoed's test, Seliwanoff's test, Iodin test, Phenyl hydrazine osazone formation test, Lane and Eynon's method of estimation Determination of phosphorus, calcium, iron, lead, copper, Manganese and tin

**CO7** Analysis of oils

**CO8** Estimation of crude fat

**CO9** Determination of pH.

**CO10** Estimation of plant pigments by Spectrophotometric method.

**CO11** A visit to food analytical lab.

## **FST1CO3 RESEARCH METHODOLOGY AND STATISTICS**

### **COURSE OUTCOME**

**CO1** Desire to get a research degree along with its consequential benefits;

**CO2** Desire to face the challenge in solving the unsolved problems, i.e., concern over practical problems initiates research;

**CO3** Desire to get intellectual joy of doing some creative work;

**CO4** Desire to be of service to society;

## **FST1C04 BASIC PRINCIPLES OF ENGINEERING**

### **COURSE OUTCOME**

**CO1** Describes physical, mechanical, rheological, frictional and aerodynamic properties of solid food materials

**CO2** Learn about different modes of heat transfer and extrusion technology

**CO3** Explain the principle, method of drying and different drying equipment used in food industries

**CO4** Describe the construction and operating principles of refrigeration systems using engineering terminology.

**CO5** Determine heat loads and heat losses in heating and cooling food process systems.

**CO6** Apply the principles of mass and energy balance to food processing systems.

**CO7** Describe the construction and operating principles of boilers, pumps and heat exchangers

**CO8** Describe the construction and operating principles of mechanical power transmission.

**CO9** Design characteristics of food process equipment with sanitary design features.

## **BASIC PRINCIPLES OF ENGINEERING PRACTICAL**

### **COURSE OUTCOME**

**CO1** Familiarize with different drawing equipment, technical standards and procedures for construction of geometric figures

**CO2** Develop imagination and ability to represent the shape, size and specifications of physical objects

**CO3** Construct and Interpret appropriate drawing scale as per the situation

**CO4** Improving technical communication skill in the form of communicative drawings.

**CO5** Draw simple curves like ellipse, cycloid and spiral and draw Orthographic projections of points, lines and planes.

**CO6** Draw orthographic projection of solids like cylinders, cones, prisms and pyramids and draw isometric projections of simple objects.

**CO7** Familiarize with engineering accessories like boiler house, Electrical laboratory and workshop, refrigeration equipment.

## SEMESTER II

### FST2C05 BIOCHEMISTRY AND NUTRITION

#### COURSE OUTCOME

**CO1** Understanding the relevance of biochemistry in food science and technology.

**CO2** Knowledge on enzyme nomenclature, enzyme classification and kinetics, enzyme inhibition, mechanism of enzyme action

**CO3** Awareness on biomolecules, in the living system and their functions.

**CO4** Information on carbohydrate metabolism, amino acid metabolism, Lipid metabolism, nucleic acids, minerals and vitamins.

**CO5** Study of biochemical pathways that sustain life and disorders due to inborn errors of metabolism.

**CO6** Brief study on Dietetics and Health foods

### FST2C06 FOOD STORAGE AND INFESTATION CONTROL

#### COURSE OUTCOME

**CO1** Understand about the food storage infestation, sources, factors affecting food commodities.

**CO2** Describe different types infestation control methods.

**CO3** Know about types of pest on food commodities and mode of attack on food.

**CO4** Explain sanitation and safety measures in food storage.

**CO5** Give detailed structure about godown.

**CO6** Assess the damage in storage premises

**CO7** understand the physical, chemical and biological control of pest

**CO8** Acquire the knowledge about sanitation and safety measures in food storage premises

**CO9** Know about state ware house corporation, food corporation of India

## **FST2C07 INDUSTRIAL MICROBIOLOGY AND BIOCHEMICAL ENGINEERING**

### **COURSE OUTCOME**

**CO1** Detailed study on fermentation process, microbial growth kinetics and types of fermentation processes.

**CO2** Knowledge on upstream and downstream processes in fermentation.

**CO3** Understanding the application of rDNA technology in fermentation process.

**CO4** Awareness about the microbial production of substances for food application including amino acids, enzymes, organic acids, polysaccharides, vitamins etc.

**CO5** Study of bioreactors, operations of bioreactors and scale-up o bioprocess and equipments.

**CO6** Knowledge on the application of immobilization technology in fermentation and study of effluent treatment methods.

## **INDUSTRIAL MICROBIOLOGY AND BIOCHEMICAL ENGINEERING PRACTICAL**

### **COURSE OUTCOME**

**CO1** Study of bacterial growth kinetics.

**CO2** Understanding of enzyme immobilization technique.

**CO3** Production of fermented food products

**CO4** Knowledge on the testing of BOD and COD.

**CO5** Isolation and maintenance of cultures, growth kinetics

**CO6** Enzymes and whole cell immobilization

**CO7** Aeration efficiency (mass transfer coefficient)

**CO8** Fermentation monitoring and control

**CO9** Alcoholic fermentation. Production of foods – wine, beer, Tempe, yoghurt, vinegar.

**CO10** Measurement of COD and BOD.

**CO11** Visit to fermentation Industry.

## **FST2C08 FOOD ENGINEERING**

### **COURSE OUTCOME**

**CO1** Describes physical, mechanical, rheological, frictional and aerodynamic properties of solid food materials

**CO2** Learn about different modes of heat transfer and extrusion technology

**CO3** Describes several separation techniques

**CO4** demonstrate of mass transfer operations

**CO5** Explain the principle, method of drying and different drying equipments used in food industries

**CO6** Demonstrate of milling equipments, material handling and transportation methods

## **FOOD ENGINEERING PRACTICAL**

### **COURSE OUTCOME**

**CO1** Understand various physical properties of solid foods like angle of repose of grains, bulk density, true density, and porosity.

**CO2** Analysis of drying characteristics of foods and plotting of drying curve

**CO3** Determination of average size of the particle in ground food grains by sieve analysis or screen analysis

## **SEMESTER III**

### **FST3C12 TECHNOLOGY OF FRUITS, VEGETABLES, SPICES & PLANTATION PRODUCTS**

### **COURSE OUTCOME**

**CO1** Equip students with advanced knowledge of processing and preservation of fruits and vegetables.

**CO2** Familiarize different aspects of post-harvest technology along with storage practices & Storage disorders

**CO3** Understand the preparation and FSSAI specifications of Beverages, Tomato products c.

**CO4** Understand the Technology of Jam Jelly and Marmalade

**CO5** Illustrate the production and preservation methods of fruit juices.

**CO6** Understand processing of plantation crops.

**CO7** understand different water treatment

## **TECHNOLOGY OF FRUITS, VEGETABLES AND SPICES PRACTICAL**

### **COURSE OUTCOME**

- CO1** Demonstrate various fruit & vegetable products preparation
- CO2** Demonstrate FSSA specifications of fruit and vegetable products
- CO3** Demonstrate various post harvest operation of fruits & vegetables
- CO4** Determination of acidity of Fruit juice
- CO5** Determination of pH and acidity of fruits and vegetable products
- CO6** Determination of TSS
- CO7** Different methods of peeling of Fruit and vegetables
- CO8** Extraction and Preservation of fruit juices
- CO9** Preparation of Jam, jelly RTS, Squash and Crush
- CO10** Preparation of Tomato Products
- CO11** Preparation of Candy, preserve and glazed fruits
- CO12** Estimation of Salt content in pickle
- CO13** Fruit juice powder preparation
- CO14** Instrumental measurement of texture and colour in Fruit & vegetables
- CO15** Wax emulsion treatment
- CO16** Measurement of respiration of fruit and vegetables
- CO17** Analysis of spices
- Moisture
  - Total ash and acid insoluble ash
  - Volatile oil
  - Spice oleo resins
- CO18** Raw material analysis
- Mammalian excreta
  - Other excreta
  - insects
  - mold
  - Insect defiled/infested

light berries in black pepper

**CO19** A visit to tea/coffee/ chocolate industry

**CO20** A visit to Fruit and Vegetable Processing industry.

**CO21** A visit to Spices and condiments industry.

## **FST3C13 PRINCIPLES OF FOOD PROCESSING AND PRESERVATION**

### **COURSE OUTCOME**

**CO1** Identify the different causes of food spoilage

**CO2** Understand the basic principles of food preservation

**CO3** Describe the different types of preservation methods– thermal , low temperature techniques, dehydration, and chemical preservation and natural fermentation.

**CO4** understand about the process of canning, heat penetration of microorganisms in containers and process time evaluation for canned products.

**CO5** Describe the recent trends in food preservation techniques which include high pressure processing, microwave processing, pulsed electric field processing, ohmic heating .

**CO6** Familiarize about sensory evaluation of food and new product development

## **PRINCIPLES OF FOOD PROCESSING AND PRESERVATION PRACTICAL**

### **COURSE OUTCOME**

**CO1** Describe the process of can fabrication and seam technology

**CO2** Demonstrate primary processing of foods

**CO3** Determine the acidity, P H and salt content of food samples

**CO4** Carryout water quality analysis

**CO5** Conduct sensory evaluation of food

**CO6** Can fabrication, dimension and seam technology, tin plate testing- tin coating, weight and porosity.

**CO7** Primary processing of foods.

**CO8** Experiments in thermal processing, refrigeration, freezing, drying and dehydration.

**CO9** Preservation of food product using chemical preservatives.

**CO10** Estimation of SO<sub>2</sub> and benzoic acid.

**CO11** Water quality analysis.

**CO12** Determination of acidity and pH.

**CO13** Determination of salt content.

**CO14** Sensory evaluation methods.

**CO15** Visits to food processing industries.

## **FST3C14 TECHNOLOGY OF CEREALS, LEGUMES AND OIL SEEDS**

### **COURSE OUTCOME**

**CO1** Learn to appreciate the complex nature of flour and the complexity of modern baking technology

**CO2** develop competency to critically evaluate quality of product formulation and processing.

**CO3** Analyse the processing methods of pulses and legumes, nuts and oilseeds including coconut.

## **TECHNOLOGY OF CEREALS LEGUMES AND OIL SEEDS PRACTICAL**

### **COURSE OUTCOME**

**CO1** Evaluation of properties of wheat and rice –physical, chemical and rheological.

**CO2** Processing and evaluation of bread, biscuit and cake.

**CO3** Experimental milling of wheat and rice.

**CO4** Evaluation of properties of wheat and rice –physical, chemical and rheological.

**CO5** Test baking of bread, biscuit, cookies and cakes.

**CO6** Experimental milling of wheat.

**CO7** Quality parameters of rice and wheat flour.

**CO8** Processing and evaluation of pasta good.

**CO9** Cooking quality of rice.

**CO10** Experimental parboiling and quality evaluation.

**CO11** Experimental milling of rice.

**CO12** Estimation of FFA, crude oil, fiber and minerals in bran.

**CO13** cooking quality of pluses,

**CO14** Milling and puffing experimental expeller pressing.

**CO15** Experimental solvent extraction.

**CO16** Production of protein concentrates and isolates.

**CO17** Visit to pulse, rice or wheat and oil mills.

**CO18** Visit to a baking industry.

## **FST3C15 PACKAGING TECHNOLOGY**

### **COURSE OUTCOME**

**CO1** Understand food packaging principles , packaging materials, types related to use with various food systems and packaging permeability.

**CO2** understand about Passive and active packaging including modified atmosphere packaging and controlled atmosphere storage of foods, Reuse, disposability and printing of packaging, Labeling techniques and legislative requirements for labeling food and beverage products.

**CO3** Familiarize the purpose and principles of food packaging and examine the operations involved in packaging material manufacture.

**CO4** Critique environmental issues, regulations and quality control associated with food packaging.

**CO5** Identify and evaluate the suitability of processing and packaging techniques for various foods

### **PACKAGING TECHNOLOGY PRACTICAL**

### **COURSE OUTCOME**

**CO1** Apply and examine the knowledge of properties for selection of packaging materials for food products.

**CO2** Understand various properties of packaging materials and determination of properties like bursting strength, tearing resistance, puncture resistance, impact strength, and tear strength of packaging materials by various packaging testing equipments.

**CO3** Identification of packaging materials and knowledge on Chemical and physical tests of packaging materials.

**CO4** Identification of packaging materials.

**CO5** Strength properties of packaging materials,

Grammage

Bursting strength

Migration rate

Tearing strength

water vapor transmission rate,

Gas transmission rate.

Chemical resistance of packaging materials.

**CO6** Shelf-life of packaged foods. Vacuum and gas packaging.

**CO7** Pre-packaging of fresh produce.

**CO8** Chemical and physical tests of packaging materials.

**CO9** A visit to Packaging Industry or Institutional departments.

## **SEMESTER IV**

### **FST4E16 FOOD PLANT AND QUALITY MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** Evaluate the recent developments in the control of food safety.

**CO2** Have an integrated view of the issues involved.

**CO3** conduct risk assessments of food safety problems in food industry

**CO4** Demonstrate detailed knowledge of the requirements for compliance with national and international food safety legislation.

**CO5** Explore the history and basic ideas underlying quality management and have a detailed knowledge of the role of Quality Management (QM) in modern management.

**CO6** Demonstrate knowledge of quality management systems, their implementation and the practical steps needed for implementation.

**CO7** Know how to control and maintain a quality management system.

**CO8** Have detailed knowledge of certification and accreditation.

**CO9** Have knowledge and insight of different quality management systems i.e. product quality management, safety and environmental management

### **FST4E17 TECHNOLOGY OF ANIMAL FOOD PRODUCTS**

#### **COURSE OUTCOME**

**CO1** Understand the importance of safe slaughtering methods and its significance in food safety.

**CO2** Demonstrate Innovative ideas on the production of various products

**CO3** Describe the methods of preservation of different animal products based on their shelflife

**CO4** Demonstrate Quality parameters of egg and the preservation methods from ancient to modern technologies

**CO5** Give a idea about fish processing technology.

## **TECHNOLOGY OF TECHNOLOGY OF ANIMAL FOOD PRODUCTS PRACTICAL COURSE OUTCOME**

**CO1** Determine the acidity of milk, curd, butter

**CO2** Quality analysis of egg

**CO3** Proximate composition of meat and fish

**CO4** Hygienic Meat Production and carcass evaluation

**CO5** Evaluation of Fish Quality,

**CO6** Detection of spoilage in meat and Fish

**CO7** Processing of Ham and Bacon, Sausage and Corned Beef

**CO8** Curing of Fish

**CO9** Thermal Processing of Meat, Fish and Poultry Products.

**CO10** Commercial sterility of canned meat Products

**CO11** Freezing of meat and fish

**CO12** Measurement of meat texture

**CO13** Meat Structure

**CO14** Preparation of Traditional Products such as Tandoori Chicken and Kababs

**CO15** Measurement of egg quality

**CO16** Fish Meal and Fish oils

**CO17** Casings from Intestines

**CO18** Rendering

**CO19** Visit to Local abattoir and Poultry Farm

## **FST4E18 DAIRY TECHNOLOGY**

### **COURSE OUTCOME**

**CO1** Compare different types of milk

**CO2** Understand about the platform quality test conducted for milk

**CO3** Describe in detail, the dairy plant operations

**CO4** Understand in detail about different milk products like cream, butter, ghee, ice cream, butter oil, condensed milk etc.

**CO5** Understand the fermented dairy products like yoghurt, acidophilus milk, butter milk etc.

**CO6** Demonstrate cheese, its classification and different processing methods adopted

**CO7** Understanding about dairy plant sanitation and hygiene

## **DAIRY TECHNOLOGY PRACTICAL**

### **COURSE OUTCOME**

**CO1** Conduct platform tests for milk

**CO2** Evaluate the quality of milk by analysis of fat, SNF, TS, specific gravity and acidity

**CO3** Estimate the FFA content in ghee

**CO4** Detect adulteration in milk

**CO5** Conduct phosphatase test and methylene blue reduction test to check milk quality

**CO6** Determine the quality of cream, butter, ghee, condensed milk and dried milk

**CO7** Prepare milk products like khoa, paneer, chana and shrikhand

**CO8** Analyze khoa for total solids, moisture, fat and acidity

**CO9** Examine microbiological quality of milk

**CO10** Plat form tests for milks

**CO11** Routine analysis of milk – Fat, SNF, TS, Specific gravity, Acidity etc

**CO12** FFA in ghee.

**CO13** Detection of adulteration in milk

**CO14** Phosphatase test

**CO15** MBRT

**CO16** Quality determination of cream, butter and Ghee, Condensed and dried milk.

**CO17** Preparation of khoa from cow, buffalo milk.

**CO18** Analysis of khoa for total solids, moisture, fat, acidity.

**CO19** Preparation of Paneer, preparation of chana and shrikhand.

**CO20** Microbiological examination of milk.

## **FST4E19- SUGAR AND CONFECTIONARY TECHNOLOGY**

### **COURSE OUTCOME**

**CO1** Get knowledge on the overview of the relevant physical chemical properties of sweetners.

**CO2** Understand the different types of sugar confectionary products and their process.

**CO3** Expertise in the processing and preparation of various type sugar confectioneries.

**CO4** Evaluate the product quality and shelf life of the products

**CO5** Acquiring depth knowledge on the manufacturing leads to stable position in the research and development of the versatile confectionery products



# **M. Sc. GENERAL BIOTECHNOLOGY**

## **COURSE OUTCOME**

### **SEMESTER I**

#### **GBT 1C 01. CELL BIOLOGY**

##### **COURSE OUTCOME**

**CO1** Understand the structures and grounds of basic cell components of prokaryotes and eukaryotes including macromolecules, membranes, and organelles.

**CO2** Helps to understand cellular components underlying cell growth and division.

**CO3** Also helps them to perceive, how cell to cell interaction takes place.

**CO4** Students will understand how these cellular components are used to generate and utilize energy in cells

**CO5** Students will apply their knowledge of cell biology to selected examples of changes or losses in cell function. These can include responses to environmental or physiological changes, or alterations of cell function brought about by mutation.

**CO6** Also helps to understand the how proteins are getting synthesised and utilised by the body cells.

**CO7** Also provides research based specialization in biological and medically oriented studies. Modern pharmaceutical, biomedical, and biotechnological industry often base their research on biochemical, molecular, cell biological and physiological techniques. There is an increasing need for knowledge of cell biology and physiology within biomedical research.

#### **GBT 1C 02 Biomolecules**

##### **COURSE OUTCOME**

**CO1** Demonstrate the techniques in biochemistry and to apply them in scientific research.

**CO2** Describe the basic concepts of thermodynamics.

**CO3** Explain the structure and functions of major biological macro and micro molecules.

**CO4** Quantify the biological macro and micro molecules in different samples.

**CO5** Describe the biochemical pathways that sustain life.

## **GBT 1C 03 Microbiology**

### **COURSE OUTCOME**

**CO1** Basic types of Microscopes and staining techniques and various culture media. Understand the basic microbial growth mechanism, Know the various Physical and Chemical growth requirements of bacteria and their classification based on nutritional requirements.

**CO2** Physiology and metabolism of microorganisms including viruses.

**CO3** Soil microflora and kinds of interactions and importance of biogeochemical cycles.

**CO4** Importance and types of bio fertilizers, bio pesticides

## **SEMESTER II**

### **GBT 2C 01 Metabolism and Basic Enzymology**

### **COURSE OUTCOME**

**CO1** Explain the regulation of biochemical processes.

**CO2** Describe the basic properties and role of enzymes that sustain life.

**CO3** Demonstrate the techniques in biochemistry and to apply them in scientific research.

### **GBT 2C 02 Molecular Biology**

### **COURSE OUTCOME**

**CO1** Molecular Biology gives an in-depth knowledge of the biological process through the investigation of the underlying molecular mechanisms.

**CO2** Gain insight into the experiments which determined DNA as genetic material.

**CO3** Explain the fundamental structure, properties, and processes in which nucleic acids play a part.

**CO4** Discuss the molecular mechanisms by which DNA controls development, growth or morphological characteristics of organisms.

**CO5** Gain knowledge into the mechanism of how variations are generated from one generation to another.

**CO6** Discuss the mechanism of how the information from DNA is converted into effector molecules proteins and the role of post-translational modifications in normal functioning of an organism.

**CO7** Understand the mechanism of how cancer progresses and gain insight into various methods of detection and treatment.

**CO8** Understand and apply the principles and techniques of molecular biology which prepares students for further education and employment in teaching, basic research, or the health professions.

**CO9** They can critically and quantitatively analyse scientific data, either their own original data or the published data of others.

**CO10** They can define a specific hypothesis and design an experiment to test it, also work collaboratively in a team to produce a joint intellectual product.

**CO11** With the knowledge of Molecular biology, the student can obtain a position in both the public and private sector as a consultant in biochemical, pharmaceutical, biomedical and biotechnological industry.

### **GBT 2C 03 Environmental Biotechnology**

#### **COURSE OUTCOME**

**CO1** Understand the various global and regional environmental concerns due to human and natural activities, and its impact on various forms of biodiversity and human habitat.

**CO2** Investigate case studies of different types of environmental pollution and their impacts.

**CO3** Able to incorporate the knowledge from chemistry, biochemistry, molecular biology and/or microbiology, to understand and address environmental issues, alongside exploring environmental resources for new technologies.

**CO4** Create awareness of emerging concerns such as climate change, waste management or reductions in fossil fuels, and new technologies for addressing these.

**CO5** Conduct independent research work in a laboratory and produce hypothesis.

**CO6** Select, adapt and conduct molecular and cell-based experiments to confirm the hypothesis.

**CO7** Demonstrate advanced skills in performing literature searches and presenting a critical Appraisal.

### **GBT 2C 04 Biostatistics & Bioinformatics**

#### **COURSE OUTCOME**

**CO1** Know about the existing software effectively to extract information from large databases and to use this information in computer modeling.

**CO2** Will attain problem-solving skills, including the ability to develop new algorithms and analysis methods

**CO3** An understanding of the intersection of life and information sciences, the core of shared concepts, language and skills the ability to speak the language of structure-function relationships, information theory, gene expression, and database queries

## **Semester III**

### **GBT 3C 01 Genetic Engineering**

#### **COURSE OUTCOME**

**CO1** To acquire knowledge in Gene regulation studies.

**CO2** To know about the production of protein drugs for clinical trial.

**CO3** Knowledge about molecular mapping of genome

**CO4** Gain the information about the ethical issues and Biosafety of Genetically modified organisms.

### **GBT 3C 02 Bioprocess Technology**

#### **COURSE OUTCOME**

**CO1** Also have knowledge about recombinant protein expression and production from various cell systems has advanced knowledge about factorial experimental set up

**CO2** They will understand how industrially useful microorganisms are getting isolated and preserved and the processes of using it for synthesis of industrially important products like Antibiotics, organic acids, enzymes, Single cell proteins, vitamins.

**CO3** They will have a strong knowledge about the techniques of development of a new industrially important microorganism.

**CO4** They will able to apply knowledge of biological science and engineering to bio-catalysed reaction systems to understand mechanism and kinetics of enzyme/microbial catalysed reactions

**CO5** Also understand how to select suitable bioreactor for desired application and also to select suitable separation system for downstream processing.

**CO6** They will also understand the concept of enzymes, its purification and its industrial relevance.

### **GBT 3C 03 Plant Biotechnology**

#### **COURSE OUTCOME**

**CO1** Understanding of biotechnological processes and also has applicative value in pharmaceutical and food industry.

**CO2** This course explores the use of biotechnology to both generate genetic variation in plants and to understand how factors at the cellular level contribute to the expression of genotypic and phenotypic variation.

**CO3** There is a highlighting on the molecular mechanisms directing plant gene expression under diverse environmental and developmental stimuli.

**CO4** A problem-based learning approach is employed to demonstrate the use of various technologies.

### **GBT 3C 04 IMMUNOLOGY**

#### **COURSE OUTCOME**

**CO1** Know the cellular ontogeny and organs involvement in immunity.

**CO2** Explain the principles of self-tolerance and autoimmunity.

**CO3** Able to provide an overview of the interaction between the immune system and pathogens.

**CO4** Understand the molecular basis of complex, cellular processes involved in inflammation and immunity, in health and disease.

**CO5** Effectively communicate the understanding of basic mechanisms and therapeutic implications.

**CO6** Develop critical thinking and use of primary research publications to understand the scientific processes which lead them to draw hypothesis and scientific discovery.

**CO7** Conduct independent research work in a laboratory and produce hypothesis.

**CO8** Select, adapt and conduct molecular and cell-based experiments to confirm the hypothesis.

**CO9** Demonstrate advanced skills in presenting research outcomes along with a critical appraisal.

### **GBT 3E 01 Stem Cell Biology Part A**

#### **COURSE OUTCOME**

**CO1** embryonic stem cells and induced pluripotent stem cells

**CO2** Develop a molecular understanding of nuclear reprogramming and cloning.

**CO3** Compare between different types of stem cells, their function, characterization and isolation techniques.

**CO4** Define key molecular and cellular principles of the biology of several adult stem cell types including hematopoietic, skin, intestine and neural stem cells as well as cancer stem cells.

**CO5** Develop a firm conceptual understanding of key stem cell fate choices including self-renewal and differentiation/commitment as well as stem cell plasticity.

### **Semester IV**

## **GBT 4E 03 Stem Cell Biology Part B**

### **COURSE OUTCOME**

**CO1** Recall selected bioengineering tools for use in stem cell therapy for recovery from neurodegenerative diseases and tissue system failures such as diabetes, cardiomyopathy and kidney failure.

**CO2** Demonstrate advanced skills in performing literature searches for model organisms and presenting a critical appraisal.

## **GBT 4E 05 Industrial & Food Biotechnology**

### **COURSE OUTCOME**

**CO1** Describe the basic principles of fermentation

**CO2** Describe basic safety aspects of fermentation

**CO3** They will understand about different fermentation system

**CO4** Understand enzyme action and main classes of enzymes

**CO5** They will understand about industrially useful microorganisms

**CO6** Understand the importance of probiotics

**CO7** Understand about dairy fermentation and fermented products

**CO8** understand about strain improvement and also about recombinant enzymes

**CO9** describe cell and enzyme immobilization

**CO10** understand product enhancement, biosensors and bioprocess monitoring

# **M. Sc. MICROBIOLOGY**

## **COURSE OUTCOME**

### **SEMESTER I**

#### **MBG1C01 General Biochemistry and Microbial Metabolism**

##### **COURSE OUTCOME**

- CO1** Summarise the fundamental biochemical properties of biomolecules
- CO2** Describe the metabolism of Amino acids, Carbohydrates, Lipids and Nucleic acids
- CO3** Demonstrate the mechanism of ATP synthesis at various levels by biological process.
- CO4** Interpret the properties, classification and mechanism of action of Enzymes associated with the metabolism of biomolecules

#### **MBG 1C02 Biophysics and Instrumentation**

##### **COURSE OUTCOME**

- CO1** Discuss the properties of interactions between atoms and molecules.
- CO2** Demonstrate the interactions of DNA-protein, RNA-protein and DNA-drug.
- CO3** Analyse the structure of protein through Ramachandran plot and advanced techniques
- CO4** Compare different techniques in microscopy
- CO5** Differentiate the working principle, instrumentation and applications of various bio-analytical instruments.

#### **MBG1C03 Environmental and Sanitation Microbiology**

##### **COURSE OUTCOME**

- CO1** Discuss the basic concepts of ecological system, pollution and environment
- CO2** Compare different types of interaction among microbial communities and their significance
- CO3** Explain biogeochemical cycles and their importance in an ecosystem
- CO4** Elaborate the role of microbes in soil, water and air

**CO5** Summarise the methods of air quantitation, air sanitation, sewage treatment and water purification.

**CO6** Discuss the various aspects and the application of microbes in various fields of agriculture and environmental microbiology like bioremediation, biofertilizers and waste treatment methods.

### **MBG1C04 Agricultural Microbiology and Plant Pathology**

#### **COURSE OUTCOME**

**CO1** Describe the microbial interactions between microorganisms, plants and animals

**CO2** Explain the various applications of microorganisms in agriculture to improve soil fertility as bio fertilizers and bio pesticides.

**CO3** Contrast between bio fertilizer and chemical fertilizer.

**CO4** Illustrate different plant diseases caused by different microorganisms with emphasis to pathology and epidemiology.

**CO5** Discuss the defence mechanisms exerted by the plant in response to an infection

### **MBG1L01 Practical I**

#### **(General Biochemistry and Microbial Metabolism)**

#### **COURSE OUTCOME**

**CO1** Apply the knowledge in the preparation of solutions and buffers according to the neediness using molar, percentage etc.

**CO2** Analyse the Qualitative and Quantitative aspects of different bio active components Proteins, carbohydrates, citric acids etc.

**CO3** Demonstrate Enzyme kinetics and its assay using spectrophotometer

**CO4** Perform isolation, Quantification, purification and separation of bioactive components using chromatographic techniques.

**CO5** Demonstrate various experiments which include basic methods of physical biochemistry, biochemical analysis and separation methods.

### **MBG1L02 Practical II**

#### **(Biophysics and Instrumentation, Environmental and sanitation microbiology & Agricultural Microbiology and plant pathology)**

#### **COURSE OUTCOME**

**CO1** Isolate bacteria, fungi, actinomycetes and phages from various sources of concern

**CO2** Demonstrate various growth patterns, culturing methods and different quantification techniques of microorganisms from air, soil and termite gut

**CO3** Demonstrate the Anaerobic cultivation of bacteria

**CO4** Evaluate the efficacy of autoclave and bacteria proof filters

**CO5** Demonstration of special microorganisms with different unique applications in agriculture and environmental research.

**CO6** Assess the quality of water by MPN, DO, BOD and COD.

**CO7** Compare efficacy of different bio control agents.

**CO8** Assessment of the synthesis of extracellular enzymes by microbes

**CO9** Illustrate the role of microorganisms in bioremediation.

## **SEMESTER II**

### **MBG2C05 Principles of Genetics**

#### **COURSE OUTCOME**

**CO1** Recall the basic concepts of Classical genetics, History of Mendel experiments on pea plants and the laws and importance of Mendelian genetics.

**CO2** Explain the mechanism of sex linkage, crossing over and genetic mapping

**CO3** Summarize the importance and significance of Chromosomal aberrations.

**CO4** Analyse the importance of Pedigree analysis and its usage in genetic disease analysis.

**CO5** Discuss the basic concepts of bacterial genetics and mode of gene transfer mechanism in bacteria.

**CO6** Justify and correlate the importance of the molecular events in gene expression and in gene regulation.

### **MBG2C06 Food and Dairy Microbiology**

#### **COURSE OUTCOME**

**CO1** Classify the type of Microorganisms present in food able to cause contamination and what are the factors influence growths of microbes in foods.

**CO2** Explain standards for assessing the quality of milk.

**CO3** Summarize spoilage of food, factors causing food spoilage and food preservation methods

**CO4** Elaborate different food borne infections

**CO5** Explain about food hygiene and regulatory practices

**CO6** Discuss the importance of microorganisms in food and factors affecting their growth in foods.

### **MBG2C07 Industrial Microbiology**

#### **COURSE OUTCOME**

**CO1** Describe the methods for screening, isolation, strain improvement, upstream processing and down stream processing in industrial process.

**CO2** Apply different isolation and development methods for industrially important microorganisms.

**CO3** Explain the mass transfer mechanism in fermentation.

**CO4** Compare different types of fermentations

**CO5** Explain the effects of different components in fermentation media.

**CO6** Discuss various techniques used for the recovery of fermentation products

### **MBG2C08. Immunology**

#### **COURSE OUTCOME**

**CO1** Describe the cells, organs, molecules, mediators, receptors associated with immune responses.

**CO2** Illustrate the development of different immune responses in a host.

**CO3** Classify the immunoglobulins with a detailed understanding of their diversity generation

**CO4** Explain the mechanisms of Hybridoma technology, antigen antibody reactions and Complement system

**CO5** Categorize different immune associated disease conditions like hypersensitivity, autoimmunity, graft rejection and tumor development based on mechanism.

### **MB2L03. Practical III**

#### **(Food and Dairy microbiology & Industrial microbiology)**

#### **COURSE OUTCOME**

**CO1** Enumerate the milk microflora and Apply the methods used in Testing the quality of milk.

**CO2** Demonstrate preservation of foods

**CO3** Enumerate microflora of food spoilage

**CO4** Isolation of enzyme producing microorganisms

**CO5** Demonstrate the Growth curve of bacteria

**CO6** Demonstrate the detection of industrially important microorganisms and its metabolite production

**CO7** Demonstrate the production of Mushroom production.

### **SEMESTER III**

#### **MBG3C09. Medical Microbiology**

##### **COURSE OUTCOME**

**CO2** Explain the pathogenesis, laboratory diagnosis and prophylaxis of important viral pathogens.

**CO3** Illustrate the characteristics of fungi with focus to superficial, sub cutaneous, deep and opportunistic infections.

**CO4** Describe the general features and classification of protozoa.

**CO5** Demonstrate the morphology, life cycle, pathogenesis and epidemiology of important protozoan diseases.

**CO6** Describe the mechanism of action and activity spectrum of antibiotics.

**CO7** Discuss the antifungal and antiviral drugs and determination of MIC.

#### **MBG3C10 Molecular Biology**

##### **COURSE OUTCOME**

**CO1** Compare gene expression and regulation in prokaryotes and eukaryotes

**CO2** Discuss the molecular mechanisms underlying mutations, DNA damage and repair

**CO3** Acquaint knowledge of DNA replication and other mechanisms of gene transfer mechanisms

**CO4** Discuss the concept of Oncogenes and tumour suppressor genes.

#### **MBG3E01. Diagnostic microbiology**

##### **COURSE OUTCOME**

**CO1** Describe a wide range of diagnostic technologies and methodologies relevant to the fields of clinical biochemistry, haematology, histopathology, cytopathology, molecular biology and microbiology.

**CO2** Differentiate between various Probe-Based Microbial Detection and Identification.

**CO3** Compare various molecular diagnostic tools.

**CO4** Explain the application of molecular tools in systematics.

### **MBG3E02. Cell Biology**

#### **COURSE OUTCOME**

**CO1** Explain the structure and functions of cell components in eukaryotic cells

**CO2** To distinguish the mechanism of protein sorting and transportation to various targets.

**CO3** Describe the mechanisms of cell signaling, cell death and cancer development.

**CO4** Correlate the cell communication mechanism with the cell cycle and its regulation.

**CO5** Conceptualize the theories and molecular mechanism of cancer development

### **MBG3E03. Microbial Taxonomy**

#### **COURSE OUTCOME**

**CO2** Distinguish different criteria used in characterization and classification

**CO3** Analyse the Molecular techniques used in classification

**CO4** Discuss the Bergey's Manual of Systematic Bacteriology with emphasis to different groups.

**CO5** Demonstrate the knowledge of taxonomy of microorganisms and their importance in clinical microbiology, public health and to prevent growth and spread of microbes in the environment.

### **MBG3L04 Practical IV**

#### **(Immunology and Medical Microbiology)**

#### **COURSE OUTCOME**

**CO1** Perform the acid fast staining procedure

**CO2** Demonstrate skills in isolation and identification of various pathogenic microorganisms.

**CO3** Discuss the viral inoculation routes in embryonated eggs.

**CO4** Perform immunological tests for diagnosis of antigen/antibody

**CO5** Determine the MIC of an antimicrobial compound

### **MBG3L05. Practical V**

#### **(Principles of Genetics & Molecular Biology)**

#### **COURSE OUTCOME**

**CO1** Isolate, purify and estimate DNA, RNA and plasmid from bacteria

**CO2** Demonstrate the visualization of the isolated nucleic acid by electrophoresis

**CO3** Demonstrate the concept of hyperchromism

**CO4** Evaluate the gene transfer process in bacteria by performing conjugation and transformation

**CO5** Assess the gene transfer by induction of beta gal gene in E coli Demonstrate cloning and restriction digestion

## **SEMESTER IV**

### **MBG4C11. Biostatistics and Bioinformatics**

#### **COURSE OUTCOME**

**CO1** Discuss the principles and practices of statistical methods in biological research.

**CO2** Explain various biological data bases for sequence retrieval, analysis, sequence alignments, phylogeny and other applications.

**CO3** Discuss the method of molecular docking and their application

**CO4** Discuss the concept behind drug designing with the application of bioinformatics tools.

### **MBG4E04. Microbial Biotechnology**

#### **COURSE OUTCOME**

**CO1** Identify the issues related to plant nutrition, quality improvement, environment adaptation, transgenic crops and their use in agriculture.

**CO2** Discuss the environmental impact of genetic engineering related to GM food crops and other agro, diary based products.

**CO3** Explain the importance of microbes in oil recovery and degradation, leaching, bio-mining and also production of biopolymers, bio-surfactants, antibiotics enzymes etc.

**CO4** Describe about genetic engineering for recombinant protein expression and production from various cell systems which has advanced knowledge about factorial experimental set up.

### **MBG4E05. Genetic engineering**

#### **COURSE OUTCOME**

**CO1** Compare genomic and cDNA Library

**CO2** Describe advanced molecular techniques in genetic engineering-PCR Methods, sequencing methods, RFLP, RAPD etc.

**CO3** Interpret the importance of molecular marker genes in cloning

**CO4** Explain the techniques for DNA introduction to the vectors and host cells.

### **MBG4E06. Biosafety, Bioethics & IPR**

#### **COURSE OUTCOME**

**CO1** Discuss the significance of biosafety and bioethics related regulations.

**CO2** Appreciate the importance of Intellectual property rights and explain various types of IPR.

**CO3** Recognize importance of biosafety practices and guidelines in research

**CO4** Comprehend benefits of GM technology and related issues.

**CO5** Recognize importance of protection of new knowledge and innovations and its role in business

### **MBG4L06. Practical VI**

#### **(Biostatistics and Bioinformatics)**

#### **COURSE OUTCOME**

**CO1** Demonstrate proficiency in bioinformatics methods including accessing the major public sequence databases, use of the different computational tools to find sequences, analysis of protein and nucleic acid sequences by various software packages

**CO2** Retrieve data from Biological Databases

**CO3** Explain the features of National Centre for Biotechnology Information (NCBI)

**CO4** Perform sequence comparison using various alignment tools

**CO5** Create protein structures with modelling tools.

**CO6** Prediction of Gene structure, gene function and ORF position.

### **MBG4P. Dissertation**

#### **COURSE OUTCOME**

**CO1** Perform data mining, literature search, systematic review, research gap finding and development of hypothesis.

**CO2** Design and execute experiment/ sampling methods

**CO3** Compilation and analysis of data and interpretation of results

**CO4** Analyse the results and validate the hypothesis to reach proper conclusions.

**CO5** Develop scientific writing skills

**CO6** Demonstrate skills in various advanced laboratory techniques

# **M.A. ISLAMIC STUDIES**

## **COURSE OUTCOME**

### **ISL1 C01 Understanding Islam and Islamic Studies**

#### **COURSE OUTCOME**

**CO1** identify the background of Islamic Studies and various learning centers in Islamic Studies

**CO2** basic premises of fundamental teachings of Islam

**CO3** understanding cardinal terms

### **ISL1 C02 Early History of Arab Culture**

#### **COURSE OUTCOME**

**CO1** Explore the social and economic and political life of ancient people in Arab region.

**CO2** Examine the role of Prophet Muhammad as Political, Social and religious leader

**CO3** Transformation of the society in to a new phase

### **ISL1 C03 Introduction to Major Muslim Dynasties**

#### **COURSE OUTCOME**

**CO1** Emergence and development of kingship

**CO2** Exploring the major Muslim Dynasties

**CO3** Understanding minor dynasties

### **ISL1 C04 Functional Arabic**

#### **COURSE OUTCOME**

**CO1** Focusing Advanced Arabic and Apply the advanced structure

**CO2** Experience the students the oral and written forms of Arabic Language

**CO3** Introduce translational skills

### **ISL2 C05 Major Themes and Works in Islamic Studies**

#### **COURSE OUTCOME**

**CO1** Introducing Major themes and works in Islamic Studies

**CO2** introduce different branches of Islamic studies

**CO3** compare and contrast classical and modern texts

### **ISL2 C06 Islam in West Asia**

#### **COURSE OUTCOME**

**CO1** awareness of the Muslims in West Asia.

**CO2** Sociocultural development of west Asia under major dynasties

**CO3** West Asia in modern world.

### **ISL2 C07 Muslim Culture in South and Central Asia**

#### **COURSE OUTCOME**

**CO1** The Muslim Culture in South and Central Asia

**CO2** Socio religious and cultural life in south Asia

**CO3** Development Muslim civilization in south Asia

### **ISL2 C08 Social Teachings of Islam**

#### **COURSE OUTCOME**

**CO1** Focus on the basic Social Teachings of Islam

**CO2** Discuss position of women in Islam

**CO3** Aware about the plurality in Islam

### **ISL3 C09 Islam in Africa and Europe**

#### **COURSE OUTCOME**

**CO1** Examine the development of Islam in Africa and Europe

**CO2** Creative awareness of educational institutions in Spain,

**CO3** Introduce Muslim Spain's contribution to knowledge

**CO4** Explore the courses of Arabs interference in the politics of Spain

### **ISL3 C10 Islam in India**

#### **COURSE OUTCOME**

**CO1** Identify the causes for the establishment of Muslim rule in India

**CO2** Critically analyses rulers during the period.

**CO3** Understand social and economic condition of Muslims under colonial power.

#### **ISL4 C11 The Revivalist Movements in Islam**

##### **COURSE OUTCOME**

**CO1** Exploring the Revivalist Movements in Islam.

**CO2** Islamic thinkers and contemporary school of thoughts.

**CO3** Arab nationalism and advent of western modernity

#### **ISL4 C12 Islam in Kerala**

##### **COURSE OUTCOME**

**CO1** Identify the historical background of spread of Islam in Kerala.

**CO2** Exploring the Development of Mappila community in Kerala

**CO3** Role of Mappila Muslims in freedom struggle

#### **ISL1 A01 Basics of Research and Community Linkage Programs**

##### **COURSE OUTCOME**

**CO1** Basics of Research and Community Linkage Programs

#### **ISL2 A02 Translation Skill in Literature**

##### **COURSE OUTCOME**

**CO1** Translation Skill in Literature

**CO2** Methodology of Malayalam, Arabic and English translations

**CO3** Translation of Islamic literary works

#### **ISL3 E01 Islamic Economics**

##### **COURSE OUTCOME**

**CO1** basic concepts Islamic economics.

**CO2** Comparative study of major economic systems

**CO3** Distribution of wealth in Islam

#### **ISL3 E02 Islamic Political Thought**

##### **COURSE OUTCOME**

**CO1** Identifying the concept and theories of Islamic Political Thought

**CO2** Functions and objectives of an Islamic state

**CO3** Critical study of some Islamic thoughts

### **ISL3 E03 Law of Inheritance in Islam**

#### **COURSE OUTCOME**

**CO1** Identifying the Major Law of Inheritance in Islam

**CO2** Inheritors and their classification

**CO3** Secondary heirs and blood relatives

### **ISL3 E04 Scientific Legacy of Muslim World**

#### **COURSE OUTCOME**

**CO1** Analyzing the Muslims contributions to Science, Astronomy philosophy etc

**CO2** Identifying Scientific Legacy of Muslim World.

**CO3** Identify the different approaches of philosophy in Islam

**CO4** Identify the major Muslim inventions and contributions to Muslim world

### **ISL3 E05 Islam in the Modern World**

#### **COURSE OUTCOME**

**CO1** Explore the Major developments in the Modern World

**CO2** Emergence of Muslim states

**CO3** Muslims of America and Europe

### **ISL3 E06 Muslim Historiography**

#### **COURSE OUTCOME**

**CO1** identifying the difference between historiography and Muslim Historiography.

**CO2** Major Muslim historians and their works

**CO3** Origin of indo Muslim historiography

### **ISL4 E07 Introduction to Major World Religions**

#### **COURSE OUTCOME**

**CO1** Analyzing the and identifying the Major world religions

**CO2** Exploring the Indian and world Religions.

**CO3** Development of Christianity and Judaism

**CO4** Emergence of Buddhism and Jainism

## **ISL4 E08 Muslims and Indian Freedom Struggle**

### **COURSE OUTCOME**

**CO1** Focusing the Indian Muslims and their role in India's Freedom Struggle

**CO2** Foundation of Indian national congress and birth of Muslim league

**CO3** Indian freedom and Muslims

## **ISL4 E09 The Arab World After World War-I**

### **COURSE OUTCOME**

**CO1** exploring the Arab world especially after World War

**CO2** emergence of British mandate

**CO3** fertile crescent under mandate

**O4** brief of British history

# **M.A. JOURNALISM & MASS COMMUNICATION**

## **COURSE OUTCOME**

### **SEMESTER I**

#### **MCJ 1C 01 INTRODUCTION TO MASS COMMUNICATION**

##### **COURSE OUTCOME**

**CO1** Recognise the social relevance of mass communication.

**CO2** Analyse the dynamics of mass communication in a systematic way using appropriate models and theoretical frameworks.

**CO3** Critically evaluate the functioning of communication systems both as a cultural process and an industrial practice.

#### **MCJ 1C 02 REPORTING NEWS**

##### **COURSE OUTCOME**

**CO1** Recognise news and report it professionally following the latest trends in the field and ethical considerations in place.

**CO2** Analyse the language of news and practice news writing

**CO3** Critically evaluate news management systems and related journalistic practices.

#### **MCJ 1C 03 EDITING NEWS**

##### **COURSE OUTCOME**

**CO1** Understand the role of editors and the functioning of the editorial section and the basic ethical issues confronting editors.

**CO2** Critically analyze copies to ensure accuracy and objectivity.

**CO3** Use correct grammar and eliminate items in poor taste in the copy.

**CO4** Write clear and accurate headlines, decks and captions.

**CO5** Design basic news pages.

## **MCJ 1C 04 MEDIA HISTORY**

### **COURSE OUTCOME**

**CO1** Understand the transition of press in the world.

**CO2** Trace the growth of media in India and its engagement with politics and social change at the different points in history

**CO3** Recognise the outcomes of different commissions, Acts and amendments regarding media.

**CO4** Critically evaluate the functioning of Indian film industry and film certifications.

## **MCJ 1C 05 COMMUNICATION LAWS & ETHICS**

### **COURSE OUTCOME**

**CO1** Have a thorough understanding of the constitutional provisions of media and communication.

**CO2** Understand the rules and regulations in relation to media and communication profession.

**CO3** Have discourses on media and communication ethics.

## **MCJ 1L 01 GRAPHIC DESIGN AND PRINT MEDIA PRODUCTION**

### **COURSE OUTCOME**

**CO1** To type in English and Malayalam and to paginate the content of print media like newspapers and magazines.

**CO2** To do essential graphic design for all types of media

**CO3** To critically evaluate the aesthetics of content visualisation and colour management of various media.

## **SEMESTER II**

## **MCJ 2C 01 MEDIA, CULTURE AND SOCIETY**

### **COURSE OUTCOME**

**CO1** Understand and apply key vocabulary, methods and interpretative strategies used in cultural studies and related areas.

**CO2** Have an informed and critical awareness of how media operates in a social system.

**CO3** Apply critical understandings of media cultures and institutions to reflect on their own use of media in professional, creative and personal practices.

**CO4** Develop a non-essentialist understanding of both their and other cultures, societies, regions and beyond.

**CO5** Critically analyse media representation of various segments of the society

## **MCJ 2C 02 ADVERTISING AND MARKETING COMMUNICATION**

### **COURSE OUTCOME**

**CO1** Understand the scope of advertising from traditional print, electronic, and outdoor campaigns; to online and social media marketing promotions.

**CO2** Recognize the societal impact of advertising and the need for ethical practitioners.

**CO3** Perform a market segmentation analysis, identify the organization's target market/audience and define the consumer behaviour of each segment.

## **MCJ 2C 03 RADIO AND TELEVISION PRODUCTION**

### **COURSE OUTCOME**

**CO1** Have through understanding of the key concepts, technology and methods of broadcast media

**CO2** Script radio and television news programmes

**CO3** Independently produce radio and television news programmes

## **MCJ 2C 04 DEVELOPMENT COMMUNICATION**

### **COURSE OUTCOME**

**CO1** Recognise key concepts, approaches and action plans in the field of development communication in the global and national scenario.

**CO2** Identify the potential of various communication methods for social change.

**CO3** Critically evaluate the communication practices implanted by various agencies for development and social change.

## **MCJ 2C 05 GLOBAL COMMUNICATION**

### **COURSE OUTCOME**

**CO1** Understand key concepts and areas of the discipline global communication to engage in the discourses related to global communication.

**CO2** Recognise the critical themes and issues in globalised communication practices and their impact on the society at large.

**CO3** Critically evaluate the functioning of media conglomerates in the world and its impact on regional media practices and consumption

**CO4** Analyse the functioning of Indian media in a globalized environment

### **MCJ 2L 01 PHOTOGRAPHY & VIDEOGRAPHY**

#### **COURSE OUTCOME**

**CO1** Develop or improve skills in contemporary videography and photography technology and operation of cameras and production equipment.

**CO2** Achieve critical appreciation skills for the aesthetics of sound and image production.

**CO3** Improve literacy in the visual language and achieve skills in digital media production.

**CO4** Gain a greater understanding of storytelling in narrative and non-narrative visual productions.

### **MCJ 2A 01 AUDIO-VISUAL EDITING**

#### **COURSE OUTCOME**

At the end of the course, the learner should be able to do digital video and audio editing using professional proprietary/open software(s) following the rules of audio visual editing.

## **SEMESTER III**

### **MCJ 3C 01 COMMUNICATION RESEARCH**

#### **COURSE OUTCOME**

**CO1** Recognise the key concepts and methods in communication research

**CO2** Design research work scientifically using various methodological frameworks

**CO3** Apply theories and theoretical framework in their research work

**CO4** Analyse data and arrive at conclusions independently and scientifically report research findings in the form of research articles and theses

### **MCJ 3C 02 PUBLIC RELATIONS & CORPORATE COMMUNICATION**

#### **COURSE OUTCOME**

**CO1** Explain the role of the public relations in the corporate environment and describe the strategies, tactics, and techniques of public relations and corporate communications

### **MCJ 3C 03 ONLINE JOURNALISM**

#### **COURSE OUTCOME**

**CO1** Recognise internet related concepts and application of the same in mass communication environment

**CO2** Develop content for the web and manage it using content management systems

**CO3** Identify the trends in online journalism and critically evaluate the form and content of online media platforms

### **MCJ 3C 04 MEDIA MANAGEMENT AND ENTREPRENEURSHIP**

#### **COURSE OUTCOME**

**CO1** Understand the organizational and economic structures and strategies used in media industries and to identify the legal, ethical and other regulatory challenges facing the electronic media.

### **MCJ 3E 01 DOCUMENTARY FILM PRODUCTION**

#### **COURSE OUTCOME**

**CO1** Understand the trajectories in the development of documentary films as a communication form

**CO2** Recognise concepts, terms, categories and key elements in documentary filmmaking.

**CO3** Understand the process of documentary filmmaking from ideation to final production

**CO4** Able to critically analyze documentary films

### **MCJ 3E 02 TECHNICAL WRITING & DOCUMENTATION**

#### **COURSE OUTCOME**

**CO1** Understand the basic components of definitions, descriptions, process explanations, and other common forms of technical writing

**CO2** Practice the unique qualities of professional writing style and know how to follow the stages of the writing process (prewriting/writing/rewriting) and apply them to technical and workplace writing tasks.

**CO3** Will be familiar with basic technical writing concepts and terms, such as audience analysis, jargon, format, visuals, and presentation.

## **SEMESTER IV**

### **MCJ 4P 01 DISSERTATION & VIVA**

#### **COURSE OUTCOME**

**CO1** Do research in the field of mass communication and journalism

**CO2** Collect quantitative and qualitative data and analyse them critically to contribute innovative output to the domain on knowledge

**CO3** Report research output in the form of theses and articles and present them and defend the findings and arguments in academic fashion

### **MCJ 4C 01 FILM STUDIES**

#### **COURSE OUTCOME**

**CO1** Relate film analysis and interpretation to wider historical, cultural and material processes

**CO2** Articulate and critically engage with current theories of cinema as text, image and mediated process

**CO3** Discern and discuss stylistic traits peculiar to different movements and traditions of film in a comparative context;

### **MCJ 4E 01 DATA JOURNALISM**

#### **COURSE OUTCOME**

**CO1** Explore key data journalism concepts and skills and gain insight into how data journalism is practiced in newsrooms.

**CO2** Analyse and evaluate the major ethical and theoretical issues affecting the delivery of data driven journalism.

**CO3** Critically discuss ways in which emerging technologies can be incorporated into your future journalism practice.

**CO4** Know the techniques for sorting, filtering, cleaning and publishing data.

### **MCJ 4E 02 PHOTOJOURNALISM**

#### **COURSE OUTCOME**

**CO1** Understand and explain key concepts of photography theory and explain how photographs communicate visually in a story.

**CO2** Learn to analyze and critique photographs and gain a better understanding of camera techniques

**CO3** Visually tell a news story.

### **MCJ 4E 03 POLITICAL ECONOMY OF INDIAN MEDIA**

#### **COURSE OUTCOME**

**CO1** Understand the political and economic contexts in which mass media in India function

**CO2** Apply concepts, categories, theories and methods in political economy framework to identify and evaluate micro/macro economic and political structures within which media as an industry function.

**CO3** Understand the nature of relationship between state, politics, economics and media and how they shape, sustain and reproduce each other



# **M. Com**

## **COURSE OUTCOME**

### **SEMESTER I**

#### **MCM1C01: BUSINESS ENVIRONMENT AND POLICY**

##### **COURSE OUTCOME**

**CO1** Analyse the environment of a business from the various internal and external perspectives

**CO2** Evaluate how the economic environment and its configurations influence in business decision making.

**CO3** Apply the role of New Economic Policy and the Economic reforms in the perspective of Business.

**CO4** To make understand the various policies related to FDI & Multi-National Corporations.

**CO5** To give an in-depth knowledge about the recent Government policies regarding Environment management.

#### **MCM1C02 CORPORATE GOVERNANCE AND BUSINESS ETHICS**

##### **COURSE OUTCOME**

**CO1** To make an understanding about the concept of Corporate Governance and the communication mechanism

**CO2** To Apply the various Theories and Models of Corporate Governance and the recent initiatives in India and abroad

**CO3** To make an understanding about the various committees on Corporate Governance and the Legal framework

**CO4** Evaluate the role of various stakeholders, whistle blowing and the recent developments in India.

**CO5** To create Important ethical principles in Business in the cultural diversity

#### **MCM1C03: QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS**

##### **COURSE OUTCOME**

**CO1** To remember and understand properties of probability distribution and to solve the problems

**CO2** To apply hypothesis testing for validation and interpretation of the results

**CO3** To evaluate the application of non-parametric tests for validation.

**CO4** To understand the tool for finding the relationship between variables and its magnitude

**CO5** To create soft skill technology for data analysis

## **MCM1C04 MANAGEMENT THEORY AND ORGANISATIONAL BEHAVIOR**

### **COURSE OUTCOME**

**CO1** To impart a thorough understanding about various concepts and theories in management and organisational behaviour.

**CO2** Understand the various psychological process and different motivation theories which will influence the performance.

**CO3** To Evaluate the personality traits of human beings and various ethical issues in Organisational Behaviour.

**CO4** To understand importance of group dynamics, need for work life balance and managing change.

**CO5** To apply the the various terms related to organisational culture and Techniques for managing organisational relationships.

## **MCM1C05 ADVANCED MANAGEMENT ACCOUNTING**

### **COURSE OUTCOME**

**CO1** To remember and understand the knowledge to use different methods of measuring financial and non-financial performance.

**CO2** To measure and solve financial and non-financial performance-based business problems.

**CO3** To understand and apply comprehensive performance management initiatives for organizations

**CO4** Understand and apply the significance of risk and uncertainty in decision making.

**CO5** To apply various techniques of interpreting Variances.

## **SEMESTER II**

## **MCM2C06 ADVANCED CORPORATE ACCOUNTING**

### **COURSE OUTCOME**

**CO1** To understand the theory and practice of Corporate Financial Accounting

**CO2** To create problem solving capacity in Corporate restructuring and liquidation

**CO3** To understand skill in recognition, measurement and presentation of deferred tax

**CO4** To understand insight into Accounting standards of IFRS, Ind AS, and Lease accounting

**CO5** To evaluate different types of accounting

## **MCM2C07 ADVANCED STRATEGIC MANAGEMENT**

### **COURSE OUTCOME**

**CO1** To understand the Strategic Management Process and to provide basic idea about the Social and ethical issues

**CO2** To understand and evaluate the Environment analysis and SWOT.

**CO3** Evaluate the strategic options at Corporate level and the different growth strategies

**CO4** To understand the Strategy implementation and different approaches in planning and allocating resources

**CO5** To apply and evaluate the Strategy evaluation, tools and techniques used and processes with case studies

## **MCM 2C08 STRATEGIC COST ACCOUNTING**

### **COURSE OUTCOME**

**CO1** To understand the conceptual knowledge of Cost Accounting, comparison of cost accounting with other branches of accounting.

**CO2** Provide students with a basic understanding of the different terminologies used in Cost Accounting and different types of cost

**CO3** Understand the treatment regarding the application of process costing and treatment of Joint products and By products.

**CO4** To understand and evaluate the practical application of Absorption Costing, Throughput Accounting, ABC Analysis and Transfer Pricing.

**CO5** To evaluate the application of Productivity Management

## **MCM2C09 INTERNATIONAL BUSINESS**

## **COURSE OUTCOME**

- CO1** To study about the Theories of International Trade and reasons for internationalisation
- CO2** evaluate the International Business Environment opportunities and threats of Indian Companies
- CO3** To understand the Strategy development in IB and the different business entry strategies.
- CO4** To evaluate the role International economic situations in the development of Business.
- CO5** To analyse the different strategies of internationalization and the contribution to Indian Course outcome economy.

## **MCM2C10 MANAGEMENT SCIENCE**

### **COURSE OUTCOME**

- CO1** To understand students with concepts of management science
- CO2** To evaluate the application of various tools which support decision making process
- CO3** To apply inventory management and managing the queue system in service sector.
- CO4** To evaluate and create the technique of project planning scheduling and controlling
- CO5** To understand knowledge in share analysis and different strategies in game theory

## **SEMESTER III**

## **MCM3C11 FINANCIAL MANAGEMENT**

### **COURSE OUTCOME**

- CO1** To understand the role of finance and finance manager in an organisation
- CO2** To Evaluate and apply sources of financing and corresponding cost of capital
- CO3** To Understand and evaluate working capital decisions
- CO4** To understand and apply Capital structure and leverage analysis
- CO5** To understand and apply dividend theory and dividend decisions

## **MCM3C12: INCOME TAX: LAW, PRACTICE AND TAX PLANNING I**

### **COURSE OUTCOME**

- CO1** To understand tax planning tips to individuals on the basis of residential status.
- CO2** To understand and evaluate the computation of income under five heads and to apply tax planning tips for these five heads of income.

**CO3** To understand and apply tax planning tips for Hindu Undivid family, set off and carry forward provisions and tax planning tips for individuals.

**CO4** To remember and understand the powers of income tax authorities and should be able to calculate advanced tax liability and TDS of an individual.

**CO5** To create ability to file the return of income of individuals and should be aware of different types of assessment.

## **MCM3C13 RESEARCH METHODOLOGY**

### **COURSE OUTCOME**

**CO1** To understand and apply different research approaches and methodologies

**CO2** To evaluate and apply Population survey and sample survey – theories and techniques

**CO3** To understand and apply the Data collection methods and enable them to conduct a comprehensive research.

**CO4** To Evaluate the Measurement and scaling and the validation and reliability testing

**CO5** To understand and evaluate Data processing, analysing, interpretation and report writing a create awareness about plagiarism

## **MCM3EF01 INVESTMENT MANAGEMENT**

### **COURSE OUTCOME**

**CO1** TO understand the concept of risk, return, diversification and hedging

**CO2** To understand and apply the different types of bonds and bond valuation

**CO3** Provide thorough understanding and evaluation of fundamental analysis and technical analysis

**CO4** To understand the measurement of portfolio risk, optimal portfolio, portfolio selection models

**CO5** To understand and create portfolio management, portfolio evaluation and revision

## **MCM3EF 02 FINANCIAL MARKETS AND INSTITUTIONS**

### **COURSE OUTCOME**

**CO1** To provide the students a sound information and knowledge of broad framework of financial markets and institutions.

**CO2** To acquire knowledge in national and international commodity market

**CO3** To understand various types financial instruments and their sale and buy back

**CO4** To gain knowledge about the working of major financial institutions

**CO5** To familiarize with different forms of foreign capital inflows and its role in Indian financial system

## **MCM3EH01 INDUSTRIAL RELATIONS MANAGEMENT**

### **COURSE OUTCOME**

**CO1** Get familiarized with terms like industrial relations, industrial conflicts and get a detailed view on industrial employment Act.

**CO2** To understand the importance of trade unions, the role of trade unions and labour relation at industry level etc

**CO3** Get a comprehensive view about the concepts of grievance management, productivity bargaining and gain sharing.

**CO4** Get a better understanding about employee empowerment and quality management, quality circles and employee suggestion schemes.

**CO5** It enables the students on in depth understanding about labour courts and industrial tribunals.

## **MCM3EH02 MANAGEMENT TRAINING AND DEVELOPMENT**

### **COURSE OUTCOME**

**CO1** To develop an understanding regarding the acceptance and practice of Training and development

**CO2** To bring out clearly the knowledge of Principles of training and factors contributing effective training

**CO3** Impart skills to design training programme, evaluation of training programme and techniques of evaluation

**CO4** To introduce the students about the training methods and techniques and to enable them to understand the concept of training climate.

**CO5** To explain the concept of learning, the basic principles of learning, and give an insight into the knowledge of technology based training

## **MCM3EM 01 ADVERTISING AND SALES MANAGEMENT**

### **COURSE OUTCOME**

**CO1** To enable the students to understand about Advertising management and the importance of creativity

**CO2** To introduce the different Medias and the changes in the globalised business environment.

**CO3** To familiarise about the concept Personal selling and its significance in the marketing process.

**CO4** To provide an insight about Sales force management and Evaluation

**CO5** To enable them to have an idea about Advertising research and methods regarding the impact assessment.

### **MCM3EM02 CONSUMER BEHAVIOUR**

#### **COURSE OUTCOME**

**CO1** Discuss about the concept Consumer Behaviour and its role in modern Marketing.

**CO2** To introduce the concept of a Consumer and the different factors influencing them in their behaviour

**CO3** To understand about the Consumer Decision making process and its impact in Marketing.

**CO4** To study about the Purchase decision process at a globalised perspective in relation to the emerging issues.

**CO5** To enable the students to conduct a Consumer research survey and the important tools in this regard.

### **SEMESTER IV**

### **MCM4C14 FINANCIAL DERIVATIVES AND RISK MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** To understand and apply the terms and concepts of underlying risk management

**CO2** To understand and evaluate growth and development of future.

**CO3** To understand and apply the option trading and various strategies involved in it.

**CO4** To understand about the pricing of options- call and put option

**CO5** To evaluate and apply SWAP contract and pricing of different instruments under SWAP.

### **MCM4C15 INCOME TAX: LAW, PRACTICE AND TAX PLANNING II**

#### **COURSE OUTCOME**

**CO1** To understand and apply tax planning tips for partnership firm, AOP and BOI in India.

**CO2** To understand and apply tax liabilities of cooperative society and trust and should also be able to advocate tax planning tips to them.

**CO3** To understand and evaluate the tax liability of Companies including shipping companies.

**CO4** To understand and evaluate the implications of tax on various managerial decisions.

**CO5** To understand and evaluate the tax liability of business units.

### **MCM4EF03/MCM4EFT03 INTERNATIONAL FINANCE**

#### **COURSE OUTCOME**

**CO1** Students should familiarize with the concept and significance of International Finance, IDA, IFC and ADB

**CO2** Students should understand international financial markets , foreign exchange rate , its measurement and movements.

**CO3** Students should acquire knowledge in exchange rate theories and models of exchange rate, risk management in foreign exchange

**CO4** Students should develop knowledge in international capital budgeting ,asset liability management and foreign portfolio management

**CO5** Students should acquaint knowledge in Working capital management, international cash and inventory management and international monetary investment

### **MCM4 EF04 ADVANCED STRATEGIC FINANCIAL MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** To build an understanding among students about the concepts, vital tools and techniques used for financial decision making.

**CO2** To understand the concept of capital structure planning and policies, and to find the value of firm.

**CO3** To familiarise with the concept of lease financing and various methods of lease financing

**CO4** To gain knowledge in theories of merger, different types of merger and the financial impact of merger

**CO5** To understand take over strategy and procedure and regulations.

### **MCM4EH03 PERFORMANCE MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** To familiarize with the concept of organizational performance and to impart skill to analyse organizational performance

**CO2** To appraise the students about performance management and familiarize with instrument for performance appraisal

**CO3** To enable the students to understand the process of evaluation of managerial performance and develop skill for setting performance standards

**CO4** To acquaint the students regarding different styles of management and impart knowledge about the concept of organizational culture

**CO5** To equip the students with the skill of tracking organizational performance and make them able to fix appropriate reward system.

#### **MCM4EH04 COMPENSATION MANAGEMENT**

##### **COURSE OUTCOME**

**CO1** To provide fundamental understanding about the concept of compensation, wage system and various theories of compensation

**CO2** To give a detailed view of compensation management and different types of payment system

**CO3** To inculcate basic knowledge about pricing of job, job analysis and enable them to understand the concept of job evaluation

**CO4** To help the students to gain a comprehensive view about Govt. wage policy in India and to familiarize with various Govt Acts in relation to wage payment

**CO5** To make students aware about new issues in compensation management and strategic approaches to make compensation system more effective

#### **MCM4EM03 SUPPLY CHAIN AND LOGISTICS MANGAEMENT**

##### **COURSE OUTCOME**

**CO1** To conceptualise about the Supply chain management and its importance in the globalized economy

**CO2** To study about the Role of manager in supply chain and the systems of supply chain

**CO3** To evaluate the different models and its impact in the Global logistics in connection with the legal aspects.

**CO4** Discuss about eh Logistics management and the growth due to automation

**CO5** To familiarise about the Types of inventory control and the recent trends in this area.

#### **MCM4EM04 SERVICE MARKETING**

##### **COURSE OUTCOME**

**CO1** To define the role of Service Marketing in the changing business environment.

**CO2** To familiarise about the Service marketing mix and related strategies.

**CO3** To study about the different approaches related to Service marketing.

**CO4** Discuss about the Application of service marketing in different sectors

**CO5** To evaluate the concept of Service models and the different dimensions of service quality.



# **U G PROGRAMMES**

## **B. Sc. BIOTECHNOLOGY**

### **COURSE OUTCOME**

#### **SEMESTER I**

##### **BTY1B 01 CELL BIOLOGY**

###### **COURSE OUTCOME**

**CO1** Basics of structural organization of prokaryotic and eukaryotic cell.

**CO2** Cell organelles and its properties.

**CO3** Clear idea of Interaction between cell and its environment.

**CO4** Overview of cell division in prokaryotes and eukaryotes

**CO5** Acquire knowledge about of cell signalling, stem cells and cancer.

##### **BTY1C 01 Environmental Biotechnology**

###### **COURSE OUTCOME**

**CO1** Basic concepts of ecology and ecological relationships between organisms and their environment.

**CO2** Overview of diversity of life forms in an ecosystem.

**CO3** Identify a number of habitats from the different ecosystem.

**CO4** Correlate choice of habitat for organisms to Abiotic Factors.

**CO5** Identify the role of the organism in energy transfers.

**CO6** Ecology of Communities and Dynamics of Population.

**CO7** Ecological Cycles and human influences on ecosystem.

**CO8** Strategies of pollution control and waste management.

**CO9** Experimental design, understanding and use of information from scientific articles.

**CO10** Ecological problems of humanity and nature protection which includes biological variability.

## **SEMESTER II**

### **BTY2B 02 GENERAL MICROBIOLOGY**

#### **COURSE OUTCOME**

**CO1** Know the history of microbiology and classes of microorganisms.

**CO2** Know the Difference between eukaryotic & prokaryotic cells.

**CO3** Concept of sterilization, Methods of sterilization of media and equipment.

**CO4** Isolation of pure cultures.

**CO5** Brief account of microbial diseases.

### **BTY2CO2 Environmental Biotechnology**

#### **COURSE OUTCOME**

**CO1** Basics of Water pollution and bacteriological examination of water.

**CO2** Various treatments involved in waste water treatment.

**CO3** Advantages and application of primary, secondary and tertiary waste water Treatment.

**CO4** Detailed exposure to Biological wastewater treatment processes.

**CO5** Principles and application of water purification methods.

## **Semester III**

### **BTY3BO3 BIOCHEMISTRY**

#### **COURSE OUTCOME**

**CO1** Demonstrate the separation techniques in biochemistry and to apply them in basic scientific research.

**CO2** Quantify the biological macro and micro molecules in different samples.

**CO3** Explain the basic principles behind biochemistry.

**CO4** Explain the structure and functions of four major biological macromolecules.

**CO5** Outline the major metabolic pathways in human.

**CO6** Identify the role of regulatory molecules in human body.

## **BTY3C03 Environmental Biotechnology**

### **COURSE OUTCOME**

**CO1** Identify the sources of solid waste pollution and classify them based on their physical and chemical properties. Adopt simple techniques of solid waste management such as landfill composting and vermicomposting in their residence and vicinity.

**CO2** To apply the microbial and floral processes to diminish the solid waste in a specific land area.

**CO3** Understand the biochemical mechanism of xenobiotic and recalcitrant degradation using microorganisms.

**CO4** Create awareness of emerging concerns related to air pollution and new technologies for addressing these.

**CO5** Demonstrate advanced skills in performing literature searches and presenting a critical appraisal.

## **Biodiversity Scope and Relevance**

### **COURSE OUTCOME**

**CO1** Understand different levels of biodiversity.

**CO2** Outline the main reasons for decline and threats to biodiversity.

**CO3** Identify important approaches and practices in biodiversity conservation and management.

**CO4** Develop an understanding of ethical and aesthetic value of biodiversity.

## **Research methodology**

### **COURSE OUTCOME**

**CO1** Develop understanding on framework of research process.

**CO2** Identify various sources for literature review and data collection

**CO3** Understand ethical issues in research

**CO4** Develop an understanding on project writing, thesis writing and presentation.

## **Semester IV**

### **Intellectual Property Rights**

#### **COURSE OUTCOME**

**CO1** Acquire skill to understand the concept of intellectual property rights and to develop procedural knowledge to Legal System.

**CO2** Demonstrate the importance of patent and also demonstrate process/procedures of drafting/filing a patent grant.

**CO3** Demonstrate the usage of copyrights/ trademarks and related rights and their functions.

**CO4** Equipped with knowledge in protecting “industrial design”, which could be an intellectual property of their experimental design.

**CO5** Ability to solve issues relating to intellectual property rights in scientific inventions especially in biotechnological industries.

**CO6** Also analyze ethical and professional issues which arise in the intellectual property law context.

**CO7** Students will be able to analyze the effects of intellectual property rights on society as a whole.

### **BTY4BO5 Genetics**

#### **COURSE OUTCOME**

**CO1** In-depth knowledge about the basis of hereditary and how characters are transferred from one generation to another

**CO2** Understand the mechanistic pathways by which characters are transferred in microorganism

**CO3** Students gain insight into the various genetic disorders and determine the probability of these disorders emerging in a family

**CO4** Understand the statistical method to determine the presence of a character within a population

**CO5** Gain knowledge in analysis and comparing different organism and group to their nearest neighbour on the basis of characters and genomic composition

### **BTY4 C04 Environmental Biotechnology**

#### **COURSE OUTCOME**

**CO1** Learn different techniques to reduce a load of chemicals in the environment by applying biofertilizers, biopesticides, and microbial consortiums.

**CO2** Learn the theory involved in the production of biofuels from biomass and lignocellulosic waste.

**CO3** Differentiate the advantages and disadvantages of “Single Cell Protein” (SCP) for human consumption and bioplastics for the environment.

**CO4** Know the biochemical mechanism, optimum condition behind bioleaching, and the microbial consortium used in the same.

**CO5** Demonstrate advanced skills in performing literature searches and presenting a critical appraisal.

## Semester V

### **BTY5B 07 Molecular Biology**

#### **COURSE OUTCOME**

**CO1** Molecular Biology gives an in-depth knowledge of biological process through the investigation of the underlying molecular mechanisms.

**CO2** Demonstrate the main structural elements and processes that participate in reproduction, growth, maintenance and regulation of the cell.

**CO3** Explain the fundamental structure, properties and processes in which nucleic acids play a part.

**CO4** Discuss the molecular mechanisms by which DNA controls development, growth or morphological characteristics of organisms.

**CO5** Explain the principles of cloning and genetic manipulation and their application in genetic analysis

**CO6** Demonstrate the knowledge of common and advanced laboratory practices in cell and molecular biology.

**CO7** Understand and apply the principles and techniques of molecular biology which prepares students for further education and employment in teaching, basic research, or the health professions.

**CO8** They can critically and quantitatively analyze scientific data, either their own original data or the published data of others.

**CO9** They can define a specific hypothesis and design an experiment to test it, also work collaboratively in team to produce a joint intellectual product.

**CO10** With the knowledge of Molecular biology, the student can obtain a position in both public and private sector as a consultant in biochemical, pharmaceutical, biomedical and biotechnological industry.

## **BTY5BO8 Immunology and Immuno-technology**

### **COURSE OUTCOME**

**CO1** Demonstrate how the immune system works building on their previous knowledge from biochemistry, genetics, cell biology and microbiology.

**CO2** Know the cellular ontogeny and organs involvement in immunity.

**CO3** Explain the principles of self-tolerance and autoimmunity.

**CO5** Able to provide an overview of the interaction between the immune system and pathogens.

**CO6** Understand the molecular basis of complex, cellular processes involved in inflammation and immunity, in health and disease.

**CO7** Effectively communicate the understanding of basic mechanisms and therapeutic implications.

**CO8** Develop critical thinking and use of primary research publications to understand the scientific processes which lead them to draw hypothesis and scientific discovery.

## **BTY5B09 Bioprocess Technology**

### **COURSE OUTCOME**

**CO1** Students will acquire knowledge about the underlying principles of bioprocess unit operations like fermentation, downstream processing including the types and use parts of a fermenter.

**CO2** Also have knowledge about genetic engineering for recombinant protein expression and production from various cell systems has advanced knowledge about factorial experimental set up.

**CO3** They will understand how industrially useful microorganisms are getting isolated and preserved and the processes of using it for synthesis of industrially important products like Antibiotics, organic acids, enzymes, Single cell proteins, vitamins.

**CO4** They will have a strong knowledge about the techniques of development of a new industrially important microorganism.

**CO5** Also understand how to select suitable bioreactor for desired application and also to select suitable separation system for downstream processing.

## **BTY5D01 Open course Introduction to Biotechnology**

### **COURSE OUTCOME**

**CO1** Knowledge about the introduction and history of biotechnology.

**CO2** Acquire knowledge about the basic principle of Fermentation.

**CO3** Application of Biotechnology in food industry, agriculture and medicine.

**CO4** DNA finger printing and paternity test

## Semester VI

### **BTY6B13 Plant Biotechnology**

#### **COURSE OUTCOME**

**CO1** The goal of this course is to introduce biotechnological methods in plant system.

**CO2** Understanding of biotechnological processes and also has applicative value in pharmaceutical and food industry.

**CO3** Basis of Plant Tissue culture and its importance

**CO4** This course explores the use of biotechnology tools in manipulating the plant system.

**CO5** A problem-based learning approach is employed to demonstrate the use of various technologies.

### **BTY6B14 Animal Biotechnology**

#### **COURSE OUTCOME**

**CO1** Comprehensive knowledge of the outline of how a cell culture lab should be designed and maintained.

**CO2** Learn how to culture and maintain animal cells

**CO3** Understand the role of different components and their importance for a healthy culture

**CO4** Understand how to subculture and store the cells

**CO5** Gain insight into the methods to determine cytotoxicity which in turn can be used to validate drugs for cancer

**CO6** The students at the end of this course would be experienced in culturing of animal cells and utilizing cells as a source for economically important proteins

### **BTY6B15 Recombinant DNA Technology and bioinformatics**

#### **COURSE OUTCOME**

**CO1** The objective of the course is to familiarize the students with the basic concepts in genetic engineering; to acquaint the students to versatile tools and techniques employed in genetic engineering and recombinant DNA technology; and to appraise them about applications genetic engineering.

**CO2** To acquire knowledge in Gene regulation and recombinant protein production.

**CO3** Gain the information about Bioinformatics, Biological Databases and Sequence alignment tools.

## **BTY6 B17 Medical Biotechnology**

### **COURSE OUTCOME**

**CO1** Medical biotechnology is an application of biotechnology that touches the lives of individuals every day. Both wellness and illness have ties to biotechnology.

**CO2** This new level of understanding has, in turn, created opportunities for the development of new therapies, drugs, diagnostic tools and research/clinical instrumentation.

**CO3** Medical biotechnology is one of the fastest growing opportunities for employment in the medical research field. Scientists are looking at the genetic causes of diseases, genetic links among family members, and individualized cures. As the Human Genome Project continues to map the locations of genes on human chromosomes, more solutions to the cause, prevention and cure of diseases will be discovered.

**CO4** This chapter will offer information on the growth structure development and other characteristics of microscopic organism such as bacteria algae or fungi

**CO5** Demonstrate theory and practical skills in microscopy and their handling techniques and staining procedures

## **B. Sc. FOOD TECHNOLOGY**

### **COURSE OUTCOME**

#### **FTL 1 B 01 PERSPECTIVES OF FOOD SCIENCE & TECHNOLOGY**

##### **COURSE OUTCOME**

**CO1** The basic knowledge of food science and technology.

**CO2** Structure and composition of different types of foods.

**CO3** Basics of quality assessment, nutritional factors and health foods.

**CO4** Knowledge in Food additives (Preservatives, colours, improvers etc).

**CO5** An idea about journals, research centers and leading industries.

#### **FTL 2 B 03 FOOD MICROBIOLOGY – I**

##### **COURSE OUTCOME**

**CO1** The student will have knowledge on history of microbiology.

**CO2** Understand concept of growth and reproduction of bacteria ,relevance of microscopy.

**CO3** Understand the basic microbial structure, function and study the comparative characteristics of prokaryotes and eukaryotes and understand the structural similarities and differences among them.

#### **FTL 2B 04 P FOOD MICROBIOLOGY –I**

##### **COURSE OUTCOME**

**CO1** Understand various accessories for microbiology practical ,

**CO2** Develop skill to stain bacterial cell

#### **FTL 3B 05 FOOD ENGINEERING**

##### **COURSE OUTCOME**

**CO1** Identify the mechanisms by which various unit operations in food processing optimize food quality and extend shelf life of foods

**CO2** Understand principles of heat and mass transfer phenomena

**CO3** Describe the theories of refrigeration and freezing

**CO4** Understand rheological characteristics of foods

**CO5** Understand the working principle of heat exchangers, evaporators, driers and boilers

## **FTL 4 B 07 FOOD CHEMISTRY & ANALYTICAL INSTRUMENTATION**

### **COURSE OUTCOME**

**CO1** Exposure to various Instrumental analysis of foods which needed for statutory requirements

**CO2** Understand the constituents of foods which are always amenable during processing.

**CO3** Knowledge of minor constituents useful to get organoleptic character of foods.

## **FTL 5 B 09 FOOD MICROBIOLOGY II**

### **COURSE OUTCOME**

**CO1** Understand microbiological techniques for the isolation of pure culture of Micro organisms.

**CO2** To understand spoilage organisms ,growth factors and control.

**CO3** To know the effect of fermentation in food production and how it influence the microbiological quality and status of food product.

**CO4** To perform and analyze the microbiological safety of milk and water

## **FTL 5 B 10 CEREALS, PULSES AND OIL SEEDS TECHNOLOGY**

### **COURSE OUTCOME**

**CO1** Familiarize on milling technologies of rice & wheat.

**CO2** Knowledge on baking technologies of bread, cake, biscuit and confectionary.

**CO3** Knowing the processing methods of pulses, nuts and oilseeds.

**CO4** Detailed description of millet chemistry.

## **FTL 5 B 11 FOOD PRESERVATION & PACKAGING TECHNOLOGY**

### **COURSE OUTCOME**

**CO1** Understand the master technologies of thermal food processing which governs most food industries.

**CO2** Signify the importance of various drying methods

**CO3** Make knowledge on pros and cons of low temperature preservation

**CO4** Optimize the idea on how ionizing radiation can be used for food preservation

**CO5** Rely on ancient fermentation method and its application.

**CO6** Clear the usual confusion for using various chemical preservatives.

**CO7** Dominate the common preservation techniques with the recent and advanced one.

**CO8** To be competitive with innovative ideas for developing substantial consumer products.

### **FTL 6 B 15 DAIRY TECHNOLOGY**

#### **COURSE OUTCOME**

**CO1** Lists the components of milk.

**CO2** Signify the importance of physico chemical properties of milk.

**CO3** Providing the importance of dairy processing technologies and equipment used.

**CO4** Make more knowledge on different types of market milk and fermented milk products

**CO5** Provide more information on CIP methods.

### **FTL 6 B 16 TECHNOLOGY OF ANIMAL FOODS**

#### **COURSE OUTCOME**

**CO1** Understand the importance of safe slaughtering methods and its significance in food safety.

**CO2** Innovative ideas on the production of various products

**CO3** Describe the methods of preservation of different animal products based on their shelf life

**CO4** Quality parameters of egg and the preservation methods from ancient to modern technologies

**CO5** A clear idea on fish processing Technology.

### **FTL 6 B 17 FOOD SAFETY FOOD LAWS & REGULATIONS**

#### **COURSE OUTCOME**

**CO1** Upon completion of the food safety regulations and packaging paper students will be able to understand the importance of food safety and hygiene and can apply it at industrial level.

**CO2** Students will recognize the national and international standards and practices for food safety and can implement it at industries.

**CO3** Students can take new concept of food plant sanitation and apply them to another situation.

**CO4** Students can implement the updated FSSAI act at analysis as well as production level.

### **FTL 6 B 20 P TECHNOLOGY OF ANIMAL FOODS**

#### **COURSE OUTCOME**

**CO1** To determine the acidity of milk, curd, butter

**CO2** By using Gerber method we can check the fat of milk

**CO3** By using lactometer we can check the purity of cow's milk

**CO4** Different kind of test are performing to determine the adulteration of milk

### **FT5D01 TECHNOLOGY OF SPICES**

#### **COURSE OUTCOME**

**CO1** Exposure to various processing Technology in Spices.

**CO2** Understand the importance of Spices in Food industry.

**CO3** Acquire knowledge about major spices and its products.

### **FTL 5 D 02 FRUITS AND VEGETABLES PROCESSING**

#### **COURSE OUTCOME**

**CO1** Be able to recognise and classify the various types of fruit and vegetable.

**CO2** Understand the physiological changes occurring to fruit and vegetable during processing and storage.

**CO3** Be familiar with the processing techniques used for fruit and vegetable.

**CO4** Establish the quality specification for the processing of fruit and vegetable.

### **FT5D03 FOOD AND HEALTH**

#### **COURSE OUTCOME**

**CO1** Familiarize basic knowledge of foods includes Nutritional Composition

**CO2** Knowledge about Life style diseases and food related diseases.

**CO3** acquire knowledge about various food additives and Food adulteration

**CO4** Understand Food allergens and Food poison.

### **A 014 NUTRITION AND HEALTH**

#### **COURSE OUTCOME**

**CO1** Developing supplementary nutrition program where ever necessary

**CO2** Provided information about appropriate diet.

**CO3** Increasing the nutrition knowledge and promoting desirable food behavior and nutritional practice.

**CO4** Acquired Basic knowledge of what constitute a nutritious diet and how people can best meet their nutritional needs from available recourses.

**CO5** Understanding the relationship between diet and health and to changing food and nutritional attitude.

## Complimentary Course

### FTL 1 C 01 PRINCIPLES OF NUTRITION

#### COURSE OUTCOME

**CO1** To provide knowledge about the role of nutrition in growth and health through the life cycle.

**CO2** To understand the concepts of energy balance and balanced diet.

**CO3** Recognize the relationship between physical fitness, health, and nutrition.

**CO4** Provide an overview of the major macro and micronutrients relevant to human health

**CO5** Provide the important relationship between diet and health.

### FTL 2 C 02 Food Chemistry

#### COURSE OUTCOME

**CO1** To understand relationship between the structure and functional properties of food molecules.

**CO2** To develop proper way of handling food and also develop good manufacturing practices.

**CO3** To provide knowledge of chemistry behind the food.

**CO4** Basic knowledge about the components of food and their importance in daily life.

### FTL 2 C 03 P FOOD CHEMISTRY

#### COURSE OUTCOME

**CO1** To understand food chemistry principles through laboratory exercises

**CO2** To understand the concept and principles

**CO3** Develop laboratory skills

### FTL 3 C 04 PRINCIPLES OF FOOD SCIENCE

#### COURSE OUTCOME

**CO1** Learn scientific facts and principles in various food systems.

**CO2** To acquire an overall concept about various foods

### FTL 3 C 05 P PRINCIPLES OF FOOD SCIENCE PRACTICAL

## **COURSE OUTCOME**

**CO1** To understand the principles behind analytical technique

**CO2** To understand the concept and principles

**CO3** Develop laboratory skills

## **FTL 4 C 06 FOOD PRESERVATION AND QUALITY CONTROL**

### **COURSE OUTCOME**

**CO1** Provided a basic understanding of quality concepts and practice in food companies.

**CO2** Got approaches to preserve food commodities.

**CO3** Understand the basic knowledge about common food adulterants.

**CO4** Understand the government regulations required for food products.

## **B. Sc. COMPUTER SCIENCE AND APPLICATION**

### **COURSE OUTCOME**

#### **SEMESTER 1**

##### **BCSDS 1C 01 Python Programming**

###### **COURSE OUTCOME**

**CO1** Explain basic principles of Python programming language

**CO2** Implement object oriented concepts.,.

**CO3** Implement GUI applications.

#### **SEMESTER II**

##### **BCSDS 2C 02 Introduction to Data Science**

###### **COURSE OUTCOME**

**CO1** Students will demonstrate proficiency with statistical analysis of data

**CO2** Students will apply data science concepts and methods to solve problems in real-world contexts

#### **SEMESTER III**

##### **BCSDS 3C 03 Database Management System**

###### **COURSE OUTCOME**

**CO1** Apply the database concepts and design database for given information system.

**CO2** Create database and develop database programming skills in SQL and PL/SQL.

**CO3** Apply the concepts of Normalization and design database which possess no anomalies

**CO4** Explain the issues of transaction like concurrency control, recovery and security.

## **SEMESTER IV**

### **BCSDS 4C 04 Data Visualization**

#### **COURSE OUTCOME**

**CO1** Students will execute statistical analyses with professional statistical software

**CO2** Students will be able to prepare reports using data visualization tools to make a cohesive narrative of the problem under scrutiny and offer guidance based on data insights

### **BCSDS 4C 05 Programming Lab Python Programming and MongoDB/Tableau**

#### **COURSE OUTCOME**

**CO1** Students will apply data science concepts and methods to solve problems in real-world contexts and will communicate these solutions effectively

## **B. Sc. PHYSICS**

### **COURSE OUTCOME**

#### **SEMESTER I**

##### **PHY1 B01 MECHANICS – I**

###### **COURSE OUTCOME**

**CO1** Understand and apply the basic concepts of Newtonian Mechanics to Physical Systems

**CO2** Understand and apply the basic idea of work-energy theorem to physical systems

**CO3** Understand and apply the rotational dynamics of rigid bodies

##### **PHY1C01 Properties of matter & Thermodynamics**

###### **COURSE OUTCOME**

**CO1** Understand the basic principles of elasticity

**CO2** Understand the concepts of surface tension

**CO3** Understand the aspects of viscosity

**CO4** Understand the basic principles of thermodynamics

#### **SEMESTER II**

##### **PHY 2 B02 MECHANICS – II**

###### **COURSE OUTCOME**

**CO1** Understand the features of non-inertial systems and fictitious forces

**CO2** Understand and analyze the features of central forces with respect to planetary forces

**CO3** Understand the basic ideas of Harmonic Oscillations

**CO4** Understand the analyze the basic concepts of wave motion

## **PHY2C02 Optics, Laser & Electronics**

### **COURSE OUTCOME**

**CO1** Understand the basic concepts of interference and diffraction

**CO2** Understand the concepts of polarization

**CO3** Understand the fundamentals of electronics

**CO4** Understand the important principles of laser physics

## **Semester III**

### **PHY3B03 ELECTRODYNAMICS I**

#### **COURSE OUTCOME**

**CO1** Understand and apply the fundamentals of vector calculus

**CO2** Understand and analyze the electrostatic properties of physical systems

**CO3** Understand the mechanism of electric field in matter.

**CO4** Understand and analyze the magnetic properties of physical systems

**CO5** Understand the mechanism of magnetic field in matter

### **PHY3C03 Mechanics, Relativity, Waves and Oscillations**

#### **COURSE OUTCOME**

**CO1** Understand the basic ideas of frames of reference and the principles of conservation of energy and momentum

**CO2** Understand the concepts of relativity

**CO3** Understand the basic ideas of oscillations and waves

**CO4** Understand the basic ideas of modern physics

## **Semester IV**

### **PHY4B04 ELECTRODYNAMICS II**

#### **COURSE OUTCOME**

**CO1** Understand the basic concepts of electrodynamics

**CO2** Understand and analyze the properties of electromagnetic waves

**CO3** Understand the behavior of transient currents

**CO4** Understand the basic aspects of ac circuits

**CO5** Understand and apply electrical network theorems

### **PHY4C04 Electricity, Magnetism and Nuclear physics**

#### **COURSE OUTCOME**

**CO1** Understand the basic ideas of static and current electricity

**CO2** Understand the concepts of magnetism

**CO3** Describe the fundamental concepts of nuclear physics

**CO4** Understand the basic ideas of cosmic rays and elementary particles

## **Semester V**

### **PHY5B06 COMPUTATIONAL PHYSICS**

#### **COURSE OUTCOME**

**CO1** Understand the Basics of Python programming

**CO2** Understand the applications of Python modules

**CO3** Understand the basic techniques of numerical analysis

**CO4** Understand and apply computational techniques to physical problems

### **PHY5B07 QUANTUM MECHANICS**

#### **COURSE OUTCOME**

**CO1** Understand the particle properties of electromagnetic radiation

**CO2** Describe Rutherford – Bohr model of the atom

**CO3** Understand the wavelike properties of particles

**CO4** Understand and apply the Schrödinger equation to simple physical systems

**CO5** Apply the principles of wave mechanics to the Hydrogen atom

## **PH5B08 OPTICS**

### **COURSE OUTCOME**

**CO1** Understand the fundamentals of Fermat's principles and geometrical optics

**CO2** Understand and apply the basic ideas of interference of light

**CO3** Understand and apply the basic ideas of diffraction of light

**CO4** Understand the basics ideas of polarization of light

**CO5** Describe the basic principles of holography and fibre optics

## **PHY5B09 ELECTRONICS (ANALOG & DIGITAL)**

### **COURSE OUTCOME**

**CO1** Understand the basic principles of rectifiers and dc power supplies

**CO2** Understand the principles of transistor

**CO3** Understand the working and designing of transistor amplifiers and oscillators

**CO4** Understand the basic operation of Op –Amp and its applications

**CO5** Understand the basics of digital electronics

## **PHY5D01(1) NON CONVENTIONAL ENERGY SOURCES**

### **COURSE OUTCOME**

**CO1** Understand the importance of nonconventional energy sources

**CO2** Understand basic aspects of solar energy

**CO3** Understand basic principles of wind energy conversion

**CO4** Understand the basic ideas of geothermal and biomass energy and recognize their merits and demerits

**CO5** Understand the basic ideas of oceans and chemical energy resources and recognize their merits and demerits

## **PHY5D01(2) AMATEUR ASTRONOMY AND ASTROPHYSICS**

### **COURSE OUTCOME**

**CO1** Describe the history and nature of astronomy as a science

**CO2** Understand the motion of earth in space and the cause of seasons

**CO3** Understand the basic elements of solar system

**CO4** Understand the elementary concepts of solar system

### **PHY5D01(3) ELEMENTARY MEDICAL PHYSICS**

#### **COURSE OUTCOME**

**CO1** Understand the basic aspects of physics of nuclear medicine

**CO2** Recognize different bioelectric signals and their instrumentation

**CO3** Understand the basic elements of X-ray imaging

**CO4** Understand the basic elements of ultrasound imaging and its advantages and disadvantages

## **Semester VI**

### **PHY6B10 THERMODYNAMICS**

#### **COURSE OUTCOME**

**CO1** Understand the zero and first laws of thermodynamics

**CO2** Understand the thermodynamics description of the ideal gas

**CO3** Understand the second law of thermodynamics and its applications

**CO4** Understand the basic ideas of entropy **PSO2 U C 8**

**CO5** Understand the concepts of thermodynamic potentials and phase transitions

### **PHY6B11 STATISTICAL PHYSICS, SOLID STATE PHYSICS, SPECTROSCOPY & PHOTONICS**

#### **COURSE OUTCOME**

**CO1** Understand the basic principles of statistical physics and its applications

**CO2** Understand the basic aspects of crystallography in solid state physics

**CO3** Understand the basic elements of spectroscopy

**CO4** Understand the basics ideas of microwave and infra red spectroscopy

**CO5** Understand the fundamental ideas of photonics

### **PHY6B12 NUCLEAR PHYSICS AND PARTICLE PHYSICS**

#### **COURSE OUTCOME**

**CO1** Understand the basic aspects of nuclear structure and fundamentals of radioactivity

**CO2** Describe the different types of nuclear reactions and their applications

**CO3** Understand the principle and working of particle detectors

**CO4** Describe the principle and working of particle accelerators

**CO5** Understand the basic principles of elementary particle physics

### **PHY6B13 RELATIVISTIC MECHANICS AND ASTROPHYSICS**

#### **COURSE OUTCOME**

**CO1** Understand the fundamental ideas of special relativity

**CO2** Understand the basic concepts of general relativity and cosmology

**CO3** Understand the basic techniques used in astronomy

**CO4** Describe the evolution and death of stars

**CO5** Describe the structure and classification of galaxies

### **PHY6B14 (EL1) BIOMEDICAL PHYSICS**

#### **COURSE OUTCOME**

**CO1** Understand the basic principles of biophysics

**CO2** Understand the fundamentals of medical instrumentation

**CO3** Understand the principles of ultrasound and x-ray imaging

**CO4** Understand the basic principles of NMR

**CO5** Describe the applications of lasers in medicine

### **PHY6B14 (EL2) NANOSCIENCE AND TECHNOLOGY**

#### **COURSE OUTCOME**

**CO1** Understand the elementary concepts of nanoscience

**CO2** Understand the electrical transport mechanisms in nanostructures

**CO3** Understand the applications of quantum mechanics in nanoscience

**CO4** Understand the fabrication and characterization techniques of nanomaterials

**CO5** Enumerate the different applications of nanotechnology\

### **PHY6B14 (EL3) MATERIALS SCIENCE**

#### **COURSE OUTCOME**

**CO1** Understand the basic ideas of bonding in materials

**CO2** Describe crystalline and non crystalline materials

**CO3** Understand the types of imperfections nad diffusion mechanisms in solids

**CO4** Describe the different properties of ceramics and polymers

**CO5** Describe the different types of material analysis Techniques

## Semesters I to IV

### **PHY4B05 PRACTICAL I**

#### **COURSE OUTCOME**

**CO1** Apply and illustrate the concepts of properties of matter through experiments

**CO2** Apply and illustrate the concepts of electricity and magnetism through experiments

**CO3** Apply and illustrate the concepts of optics through experiments

**CO4** Apply and illustrate the principles of electronics through experiments

## Semesters V to VI

### **PHY6B15 PRACTICAL II**

#### **COURSE OUTCOME**

**CO1** Apply and illustrate the concepts of properties of matter through experiments

**CO2** Apply and illustrate the concepts of electricity and magnetism through experiments

**CO3** Apply and illustrate the concepts of optics and spectroscopy through experiments

**CO4** Apply and illustrate the principles of heat through experiments

### **PHY6B16 PRACTICAL III**

#### **COURSE OUTCOME**

**CO1** Apply and illustrate the principles of semiconductor diode and transistor through experiments

**CO2** Apply and illustrate the principles of transistor amplifier and oscillator through experiments

**CO3** Apply and illustrate the principles of digital electronics through experiments

**CO4** Analyze and apply computational techniques in Python programming

### **PHY6B17(P) PROJECT**

#### **COURSE OUTCOME**

**CO1** Understand research methodology

**CO2** Understand and formulate a research project

**CO3** Design and implement a research project

**CO4** Identify and enumerate the scope and limitations of a research project

### **PHY6B17(R) RESEARCH METHODOLOGY (In lieu of Project)**

#### **COURSE OUTCOME**

**CO1** Understand research methodology

**CO2** Understand the concept of measurement in research

**CO3** Understand the significance and limitations of experimentation in research

**CO4** Understand and formulate a research project, ethics and responsibility of scientific research

# **B. Sc. PSYCHOLOGY**

## **COURSE OUTCOME**

### **SEMESTER I**

#### **BASIC THEMES INPSYCHOLOGY-I**

##### **COURSE OUTCOME**

**CO1** Understand how psychology was developed and became the field of science as we know it now

**CO2** Understand basic psychological processes like sensation & perception, states of consciousness and learning

**CO3** Students will be able to know how complex is human mind and each individual is unique

**CO4** Apply the learnt information in the practical day today life

**CO5** Able to analyze states of consciousness and can apply various techniques like meditation and mindfulness to improve their own and other's consciousness

### **SEMESTER II**

#### **BASIC THEMES INPSYCHOLOGY-II**

##### **COURSE OUTCOME**

**CO1** Understand higher mental processes like intelligence, thinking, motivation and emotion etc.

**CO2** Able to explain correlates and determinants of one's behaviour, judgement, reasoning, emotion, motivation, and personality

**CO3** Equipped to explain why a person is motivated to behave in a particular way

**CO4** Equipped to test intelligence quotient (IQ) and find out one's level of intellectual functioning

**CO5** Able to apply the learnt things in the practical situations

### **SEMESTER III**

## **PSYCHOLOGICAL MEASUREMENT AND TESTING**

### **COURSE OUTCOME**

**CO1** of measurement tools which is basic of Psychometry

**CO2** To identify psychometric properties of a psychological test .

**CO3** To familiar with various psychological tests that are in common use.

**CO4** Establish research attitude in students by teaching research fundamentals.

## **EXPERIMENTAL PSYCHOLOGY PRACTICAL I**

### **COURSE OUTCOME**

**CO1** Able to understand how psychological phenomenon such as attention and perception can be studied using tests and experiments.

**CO2** Able to conduct and prepare reports on Psychological tests and experiments objectively.

**CO3** Acquire basic skills necessary to conduct psychological Experiments

## **SEMESTER IV**

### **INDIVIDUAL DIFFERENCES**

### **COURSE OUTCOME**

**CO1** Explain basic concepts and theories of Intelligence and personality

**CO2** Explain the origins and types of intelligence testing

**CO3** Describe the tools used for personality assessment

**CO4** Distinguish between attitude and achievement tests

## **EXPERIMENTAL PSYCHOLOGY PRACTICAL I**

### **COURSE OUTCOME**

**CO1** Able to understand psychological phenomenon using tests and experiments.

**CO2** Able to measure Psychological attributes such as memory and illusion

**CO3** Able to conduct and prepare reports on Psychological tests and experiments objectively.

## **SEMESTER V**

### **ABNORMAL PSYCHOLOGY-I**

#### **COURSE OUTCOME**

**CO1** Discuss the historical antecedents to modern understandings of abnormal behavior

**CO2** Understand the major classification of mental disorders

**CO3** Describe etiology related to various abnormal behaviour

**CO4** Explain the clinical features of mental disorders such as Stress disorders and anxiety disorders, Somatoform and dissociative disorder and Personality disorders

### **SOCIAL PSYCHOLOGY**

#### **COURSE OUTCOME**

**CO1** Understand the historical and scientific origin and development of the Social Psychology

**CO2** Demonstrate the ability to state the fundamental principles of social psychology

**CO3** Describe the basic psychological theories, principles, and concepts explaining social perception attitude formation, group processes, pro-social behavior, conformity/obedience and stereotyping/prejudice

**CO4** Predict the outcomes of various social situations through application of social psychology principles

### **DEVELOPMENTAL PSYCHOLOGY-I**

#### **COURSE OUTCOME**

**CO1** Basic understanding of the initial researches done in the field of Developmental Psychology

**CO2** Get an idea about the different stages of prenatal development

**CO3** Basic understanding regarding physical, cognitive and emotional development in the early stages of life

**CO4** Enable the student to critically evaluate each person's development stages and pros and cons related to development

**CO5** Get an idea about theories in this field and their practical implications

### **PSYCHOLOGICAL COUNSELLING**

#### **COURSE OUTCOME**

**CO1** Able to understand the importance and application of psychological counselling.

**CO2** Able to understand the basic skills necessary for Psychological counselling.

**CO3** Differentiate different counselling approaches used

**CO4** Critically analyze ethical issues in counselling

## **HEALTH PSYCHOLOGY**

### **COURSE OUTCOME**

**CO1** Demonstrate understanding of the biological, behavioural, cognitive and social determinants of health, and risk factors for health compromising behaviours and strategies for their modification

**CO2** Describe the biopsychosocial model of health and other specific but related psychological theories

**CO3** Understand the effects of stress on person's health and the role played by stress buffering factors

**CO4** Able to recommend the stress management strategies

**CO5** Identify the psychosocial issues related to terminal illness and its management

## **EXPERIMENTAL PSYCHOLOGY PRACTICAL II**

### **COURSE OUTCOME**

**CO1** Understand how psychological phenomenon can be explored using tests and experiments.

**CO2** Conduct and prepare reports on Psychological experiments objectively.

**CO3** Evaluate the effect of different learning methods, transfer of training, and motivation

## **EXPERIMENTAL PSYCHOLOGY PRACTICAL III**

### **COURSE OUTCOME**

**CO1** Understand how psychological phenomenon can be explored using tests and experiments.

**CO2** Conduct and prepare reports on Psychological tests objectively.

**CO3** Able to assess the Intelligence, personality, creativity, adjustment, interest, achievement and decision making skill of an individual

## **OPEN COURSE**

## **PSY5D01 PSYCHOLOGY AND PERSONAL GROWTH**

## **COURSE OUTCOME**

**CO1** Explain the basics of Psychology

**CO2** Identify the components of personal growth

**CO3** Explain happiness and its relation with different aspects of life

**CO4** Appraise stress and apply stress management strategies

## **PSY5D02 LIFE SKILL APPLICATIONS**

### **COURSE OUTCOME**

**CO1** Develop and exhibit accurate sense of self

**CO2** Applying comprehensive set of skills and knowledge for life success

**CO3** Understand the communication process and its benefits

**CO4** Able to practice , and translate performance of life skills into efficient habits

## **PSY5D03 CHILD AND ADOLESCENTMENTAL HEALTH**

### **COURSE OUTCOME**

**CO1** Able to Explain assessments of mental health issues in children and adolescent

**CO2** Discuss the general mental health issues and factors affecting mental health issues

**CO3** Basic understanding about the functioning of mental health professionals and the different management strategies used for dealing mental health issues

## **SEMESTER VI**

## **ABNORMAL PSYCHOLOGY-II**

### **COURSE OUTCOME**

**CO1** Describe the characteristics and clinical features of Substance abuse disorder, Schizophrenia and psychotic disorder , mood disorders

**CO2** Explain the Major developmental disorders

**CO3** Examine the impact of biological , psychological and social factors on the development of psychological disorders

## **APPLIED SOCIAL PSYCHOLOGY**

### **COURSE OUTCOME**

**CO1** Demonstrate the application of social psychology in different areas like clinical, Educational, health and media.

**CO2** To get an outline regarding different aspects of social problems in India

**CO3** Able to examine the media related violence and recommend the preventive measures for aggression.

## **DEVELOPMENTAL PSYCHOLOGY-II**

### **COURSE OUTCOME**

**CO1** Get an insight regarding the major life changes in Adolescence and Adulthood

**CO2** Understand the physical, social, emotional and cognitive changes during adulthood

**CO3** Identify the factors affecting job satisfaction and vocational adjustments

**CO4** Help the student to become self aware of the changes happening in one's life

## **LIFE SKILL EDUCATION: APPLICATIONS AND TRAINING**

### **COURSE OUTCOME**

**CO1** Develop and exhibit accurate sense of self

**CO2** Able to identify coping skills and its applicability

**CO3** Understand the communication process and its benefits

**CO4** Applying comprehensive set of skills and knowledge for personal enhancement

## **ELECTIVES**

### **ORGANIZATIONAL BEHAVIOUR**

#### **COURSE OUTCOME**

**CO1** To understand the conceptual framework of the discipline of Organizational behaviour and its practical applications in the organizational set up.

**CO2** Analyze individual and group behaviour, and understand the implications of organizational behaviour on the process of management.

**CO3** Evaluate the appropriateness of various leadership styles and the role of leaders in a decision making process.

**CO4** To understand conflict management strategies used in organizations

**CO5** To explain group dynamics and demonstrate skills required for working in groups

## **PSYCHOLOGY OF CRIMINAL BEHAVIOR**

### **COURSE OUTCOME**

**CO1** Understand the concept, meaning and development of theories

**CO1** Understand different types of crimes and nature of criminal offenders

**CO3** Apply knowledge of correctional psychology in prisoners and juvenile delinquents

**CO4** Understand the concept and application of forensic psychology in special areas

## **POSITIVE PSYCHOLOGY**

### **COURSE OUTCOME**

**CO1** Develop an elaborate idea about positive psychology in eastern and western perspectives

**CO2** Understand the concept of well-being and identify its implications

**CO3** Understand various dimensions and applications of happiness

**CO4** Integrate and apply core concepts of positive psychology to personal and professional life

## **EDUCATIONAL PSYCHOLOGY**

### **COURSE OUTCOME**

**CO1** To prioritize the facts and methods that can be used in solving problems related to learning

**CO2** To understand about people having exceptional abilities and their difficulties

**CO3** To discuss various theories related to learning

**CO4** To critically examine the merits and demerits of current educational system

## **COGNITIVE PSYCHOLOGY**

### **COURSE OUTCOME**

**CO1** Understand human psychology from cognitive perspective

**CO2** Discuss the historical antecedents to modern understandings of cognitive psychology

**CO3** Explain the basic processes in cognition

**CO4** Describe the terms concept and memory within the scope of cognitive psychology

## **EXPERIMENTAL PSYCHOLOGY PRACTICAL II**

### **COURSE OUTCOME**

**CO1** Students would be able to understand how psychological phenomenon can be studied using tests and experiments.

**CO2** Students would be able to conduct and prepare reports on Psychological tests and experiments objectively.

**CO3** Acquire basic skills necessary to conduct psychological Experiments

### **EXPERIMENTAL PSYCHOLOGY PRACTICAL III**

#### **COURSE OUTCOME**

**CO1** Students would be able to understand how psychological phenomenon can be studied using tests and experiments.

**CO2** Students would be able to conduct and prepare reports on Psychological tests and experiments objectively.

**CO3** Acquire basic skills necessary to conduct psychological Experiments

## **B. Sc. MICROBIOLOGY**

### **COURSE OUTCOME**

#### **SEMESTER I**

##### **MBG1B01 GENERAL MICROBIOLOGY**

###### **COURSE OUTCOME**

**CO1** Sketch the historical events in the developments of Microbiology as a discipline emphasizing the contributions of the scientists.

**CO2** Compare the difference between the basic cell types viz, Eukaryote, Prokaryote, Virus, Actinomycetes and Archaebacteria.

**CO3** Describe the ultra structure of a bacterial cell helping to study the further biochemical and physiological reactions inside the cell.

**CO4** Discuss various microscopes and compare the different types of light and electron Microscope.

**CO5** Explain the various staining techniques and to distinguish their application in Microbiology.

**CO6** Discuss the sterilization procedures and to implement it to maintain a hygienic environment

#### **SEMESTER II**

##### **MBG2B02 MICROBIAL PHYSIOLOGY AND TAXONOMY**

###### **COURSE OUTCOME**

**CO1** Discuss the environmental and nutritional factors affecting the microbial growth and classify them according to these.

**CO2** Describe the mechanism of nutrient transportation across the bacterial membranes.

**CO3** Explain the preparation of various cultural media and to distinguish them for microbial cultivation

**CO4** Differentiate various cultural methods and preservation techniques

**CO5** Illustrate the reproduction systems and the growth phases of bacteria and bacteriophages

**CO6** Examine various methods for estimation of microbial cells.

**CO7** Analyze the taxonomy of microorganisms through the comparative study of various criteria used and classify them into corresponding groups.

### **SEMESTER III**

#### **MBG3B03 ENVIRONMENTAL AND SANITATION MICROBIOLOGY**

##### **COURSE OUTCOME**

**CO1** Describe the organisms in air with their sources and distribution

**CO2** Explain the methods of waste water treatment, air sampling , solid waste management, bioremediation and bioleaching

**CO3** Discuss the microbial distribution in aquatic environment with special emphasis on factors affecting them

**CO4** Compare the water purification procedures and the tests for the microbiological examination of water

**CO5** Explain air borne and water borne diseases with their mode of transmission

**CO6** Discuss the concept of xenobiotics and related environmental problems

### **SEMESTER IV**

#### **MBG4B04. SOIL AND AGRICULTURAL MICROBIOLOGY**

##### **COURSE OUTCOME**

**CO1** Recall different types of soils and soil properties

**CO2** Distinguish the different groups of microorganisms present in soil and t factors affecting their growth.

**CO3** Describe the concept of ecosystem and its components and concept of biogeochemical cycles and N, S and P cycles.

**CO4** Differentiate different types of biological interactions such as microbe-microbe, plant-microbe and animal-microbe

**CO5** Explain the symptoms, disease cycle and control measures of different bacterial, viral and fungal diseases of plants

**CO6** Discuss the potential of different microorganisms in agriculture as biofertilizers and biopesticides

### **MBG4B05(P) MICROBIOLOGY PRACTICAL I**

#### **COURSE OUTCOME**

**CO1** Familiarize with parts of a microscope and apply light Microscopy in microbiological studies

**CO2** Apply the skill of the staining for microscopic visualization

**CO3** Acquaint with common methods of sterilization and to apply the sterilization procedures in a microbiology laboratory and similar places where hygiene has to be maintained.

**CO4** Prepare different types of media for the cultivation of microorganisms in a microbiological lab.

**CO5** Determine the effect of various factors influencing the growth of microorganisms

**CO6** Demonstrate techniques for isolation and enumeration of microbes from various samples

#### **SEMESTER V**

### **MBG5B06. INDUSTRIAL MICROBIOLOGY**

#### **COURSE OUTCOME**

**CO1** Describe basic concepts of a fermentation process with various types

**CO2** Discuss the media formulations and their significance in fermentation process.

**CO3** Explain different methods for screening, isolation, improvement of strain, upstream processing and downstream processing of industrially important microorganisms and products.

**CO4** Compare various techniques used for the recovery of fermentation products.

**CO5** Demonstrate industrial production of microbial metabolites.

**CO6** Discuss different intellectual property rights related to microbial products.

### **MBG5B07 FOOD AND DAIRY MICROBIOLOGY**

#### **COURSE OUTCOME**

**CO1** Memorize the types and importance of microbes that exist in different food items and understand different parameters affecting their growth in food.

**CO2** Explain major methods to detect microbes in food, with special importance to contaminants

**CO3** Illustrate the physical and chemical properties of milk and types of microorganisms present in milk.

**CO4** Differentiate different methods used for the microbiological examination of milk.

**CO5** Acquire in-depth knowledge about microbial production of fermented dairy and non-dairy food products and understand the health benefits of SCP, probiotics and prebiotics

**CO6** Gain an insight to the microbial spoilage of different kinds of foods.

**CO7** Discuss major food borne diseases caused by different groups of microorganisms

**CO8** Explain preservation of food by various physical and chemical methods

**CO9** Discuss the concept of quality control in food, regulatory practices and policies

## **MBG5B08 IMMUNOLOGY**

### **COURSE OUTCOME**

**CO1** Explain the biological functions of various immune cells and organs

**CO2** Recognize the cellular coordination in the generation of immune responses

**CO3** Illustrate the types, structure and basic features of antigen and antibody.

**CO4** Demonstrate the significance of MHC, C system and immunological tolerance.

**CO5** Classify antigen-antibody reactions involved in diagnosis of infections.

**CO7** Describe the types and mechanisms of hypersensitivity, autoimmunity and graft rejection reactions

**CO8** Discuss the causes, molecular mechanisms, immunological responses and treatment options of tumor development.

## **MBG5B09 MEDICAL MICROBIOLOGY**

### **COURSE OUTCOME**

**CO1** Explain the concept of infection, its types, sources and the mode of transmission of various diseases.

**CO2** Discuss the methods for collection and transportation of clinical samples.

**CO3** Compare the morphology, cultural and biochemical characteristics, pathogenesis, laboratory diagnosis, treatment and prophylaxis of various bacterial diseases.

## **SEMESTER VI**

### **MBG6B10 GENETICS AND GENETIC ENGINEERING**

#### **COURSE OUTCOME**

**CO1** Summarize the mendelian and non mendelian concepts inheritance

**CO2** Explain the concepts of linkage, crossing over and recombination

**CO3** Illustrate the cell cycle events and its regulation mechanisms in eukaryotes

**CO4** Demonstrate the recombination frequency as a tool of gene mapping in eukaryotes and gene transfer techniques as a tool in prokaryotes.

**CO5** Describe the pathways of cell cycle and their regulation strategies adopted by eukaryotic cells.

**CO6** Discuss the molecular mechanisms behind the programmed cell death and the inter-relation of death pathway with the cell cycle and immune response.

**CO7** Explain the principle behind rDNA technology, DNA sequencing, PCR and their applications in biological sciences.

**CO8** Discuss the development of GMOs and its potential risks and benefits on the environment

**CO9** Critical & ethical analysis of application r DNA technology in our society

### **MBG6B11. MEDICAL MICROBIOLOGY II**

#### **COURSE OUTCOME**

**CO1** Discuss the important viral diseases including emerging viral diseases, with special emphasis on symptoms, pathogenesis, transmission and prophylaxis.

**CO2** Analyze symptoms, pathogenesis, transmission, prophylaxis and control of important fungal diseases of humans including emerging fungal diseases

**CO3** Explain important protozoan diseases of humans such as malaria ,amoebiasis and helminth infections and infections caused by flagellates

**CO4** Compare different types of vaccines and their routes of administration

**CO5** Distinguish antibiotics classes, their mode of action and mechanism of antibiotic resistance.

### **MBG6B12 (P) MICROBIOLOGY PRACTICAL II**

#### **COURSE OUTCOME**

**CO1** Apply the biochemical, microscopic and physiological properties of bacteria for the identification of unknown bacteria or clinically relevant bacteria in a patient sample.

**CO2** Report variations observed in the blood cell count majorly for clinical or diagnostic purpose

**CO3** Perform various serological techniques routinely executed in clinical laboratories.

### **MBG6B13 (P) MICROBIOLOGY PRACTICAL III**

#### **COURSE OUTCOME**

**CO1** Apply the knowledge of the learner for the preparation of various solutions and reagents in laboratories with their specific features.

**CO2** To demonstrate various stages of mitosis in onion root tip

**CO3** Execute the extraction of DNA and RNA and confirm by performing electrophoresis.

**CO4** Estimate the amount DNA and RNA in a solution

**CO5** Demonstrate the gene transfer experiments like conjugation and transformation

**CO6** Perform procedure for induction of beta galactosidase enzyme by means of artificial transformation.

**CO7** Demonstrate the Restriction digestion reaction of various enzymes widely employed in rDNA technology.

### **MBG6B14 (P) MICROBIOLOGY PRACTICAL IV**

#### **COURSE OUTCOME**

**CO1** Perform isolation and screening of industrially important microorganisms from soil

**CO2** Demonstrate the different fermentation processes-citric acid production, alcohol production and wine production

**CO3** Identify sterilization problems with suspended solids in media

**CO4** Compare various cell disruption techniques

**CO5** Perform cell disruption and salting out

**CO6** Perform enrichment of coir pith degraders, pellicle formation, and penicillin assay

**CO7** Analyze the aerobic mesophilic count of milk and microbial flora of fermented milk

**CO8** Evaluate the microbiological quality of milk by Methylene Blue Reductase test

## **MBG6B15 (E1) CELL AND TISSUE CULTURE**

### **COURSE OUTCOME**

**CO1** Describe how a plant & animal cell culture lab should be designed and maintained.

**CO2** Demonstrate the concept of tissue culture technique for plant regeneration and its application in developing plantlets of specific characteristics.

**CO3** Describe methods to determine cell cytotoxicity which in turn can be used to validate drugs and cosmetics for their side effects (toxicity).

**CO4** Discuss the basics of stem cells, their characterization and applications

## **MBG6B15 (E2) MOLECULAR BIOLOGY**

### **COURSE OUTCOME**

**CO1** Demonstrate the structure, function and other basic features of DNA and RNA

**CO2** Analyze the organization of genetic material by means of proteins and topological properties.

**CO3** Conceptualize the theme of central dogma of molecular biology by discussing the events, enzymes and mechanisms of replication, transcription and translation

**CO4** Illustrate the gene expression regulation mechanisms in prokaryotes by means of lac and trp operons.

## **MBG6B15 (E3) BIOINSTRUMENTATION**

### **COURSE OUTCOME**

**CO1** Describe the principles and applications of various techniques in life sciences such as Spectrophotometer, pH Meter, Electrophoresis, NMR, Biosensors, Centrifugation, Chromatography and Radio Isotope techniques used in the isolation, purification and analysis of biomolecules

**CO2** Describe various Spectroscopic and Chromatographic techniques

**CO3** Characterize the given sample using bioanalytical techniques

**CO4** Apply the concepts of modern analytical and instrumental techniques relevant to quantitative measurements in life science

# **BACHELOR OF COMPUTER APPLICATIONS**

## **COURSE OUTCOME**

### **SEMESTER III**

#### **XXXXA11– Python Programming**

##### **COURSE OUTCOME**

**CO1** Understand various statements, data types and functions in Python

**CO2** Develop programs in Python programming language

**CO3** Understand the basics of Object oriented programming using Python

#### **A12 Sensors and Transducers**

##### **COURSE OUTCOME**

**CO1** Explain resistance, inductance and capacitance transducers.

**CO2** Perceive the concepts of temperature transducers.

**CO3** Perceive the concepts level transducers and pressure

**CO4** Explain flow transducers, electromagnetic transducers, radiation sensors and sound transducers

#### **BCA6B16B Machine Learning**

##### **COURSE OUTCOME**

**CO1** The students will be able to understand machine learning concepts

**CO2** They also get the essential mathematical and statistical foundations of machine learning

# **BBA**

## **COURSE OUTCOME**

### **BBA1B01 MANAGEMENT THEORY AND PRACTICES**

#### **COURSE OUTCOME**

**CO1** Discuss different schools of management thought

**CO2** Understand apply the concepts of planning, organizing, staffing and controlling for effective management

**CO3** Aware and apply the ethically and socially responsible behaviour in Management, and

**CO4** Aware and pursue the modern management practices in business

### **BBA1C01 MANAGERIAL ECONOMICS**

#### **COURSE OUTCOME**

**CO1** Acquire knowledge regarding relevant economic concepts applicable in managerial decisions

**CO2** Design competition strategies, including costing, pricing, product differentiation and market environment according to the natures of products and the structures of the markets

**CO3** Make optimal business decisions by integrating the concepts of economics

### **BBA2B02 FINANCIAL ACCOUNTING**

#### **COURSE OUTCOME**

**CO1** Discuss and apply fundamental accounting concepts, principles and conventions

**CO2** Record basic accounting transactions and prepare annual financial statements for a sole proprietorship business

**CO3** Record accounting transactions in respect of hire purchase and instalment system and branches

### **BBA2B03 MARKETING MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** Understand and develop insights and knowledge base of various concepts that driving marketing strategies.

**CO2** Develop skills in organizing for effective marketing and in implementing the market planning process

## **BBA3A11 BASIC NUMERICAL METHODS**

### **COURSE OUTCOME**

**CO1** On completing the course ,the students will be able to understand, numerical equations, matrix, progression, financial mathematics, descriptive statistics and their applications.

## **BBA3B04 CORPORATE ACCOUNTING**

### **COURSE OUTCOME**

**CO1** Understand and apply fundamental IndASs on inventories, PPE, provisions, income tax, borrowing cost and intangible assets

**CO2** Prepare annual financial statements for companies and compute accounting ratios.

**CO3** Record accounting transactions in respect of redemption of preference shares and debentures

## **BBA3B05 FINANCIAL MANAGEMENT**

### **COURSE OUTCOME**

**CO1** Understand and develop insights and knowledge base of various concepts of finance

**CO2** Develop skills for effective Financial, Investment and Dividend decisions making,

## **BBA3C02 BUSINESS REGULATIONS**

### **COURSE OUTCOME**

**CO1** Analyse statutory provisions and the core concepts in business laws

**CO2** Analyze legal issues arising in day-to-day business operations prevalent in India

**CO3** Discuss possible solutions to issues in organisations in the frame work of business laws

## **BBA4B06 COST AND MANAGEMENT ACCOUNTING**

### **COURSE OUTCOME**

**CO1**Understand cost and management accounting concepts and its application for decision making.

**CO2** Aware as to cost consciousness and the various methods and techniques of costing

## **BBA4C03 CORPORATE REGULATIONS**

### **COURSE OUTCOME**

**CO1** Understand the features and different types of companies

**CO2** Aware as to the formation of companies and also as to different documents of companies

**CO3** Understand the share capital and other relevant provisions of the same

**CO4** Understand the management, corporate governance, corporate social responsibility and some basic aspects of SEBI, and

**CO5** Understand the provisions of conducting meetings and also the winding up procedure of companies.

### **BBA4C04 QUANTITATIVE TECHNIQUES FOR BUSINESS**

#### **COURSE OUTCOME**

**CO1** Understand and develop insights and knowledge base of various concepts of Quantitative Techniques.

**CO2** Develop skills for effectively analyze and apply Quantitative Techniques in decision making.

### **BBA5B07 HUMAN RESOURCES MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** Develop insights on various concepts and Functions of Human Resource Management

**CO2** Learn the latest trends in Human Resource Management.

### **BBA5 B08 BUSINESS RESEARCH METHODS**

#### **COURSE OUTCOME**

**CO1** Understand and develop insights and knowledge base of various concepts in Research.

**CO2** Develop skills for conducting business research

### **BBA5B09 OPERATIONS MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** Understand the different concepts of operation Management.

**CO2** Acquire the knowledge to make plans at the operational level of an industry

### **BBA6B12 ORGANISATIONAL BEHAVIOR**

#### **COURSE OUTCOME**

**CO1** Understand the different concepts of Organisational Behaviour

**CO2** Analyse individual and group behaviour

**CO3** Understand and deal with organisational change, development and stress

### **BBA6B13 MANAGEMENT SCIENCE**

#### **COURSE OUTCOME**

**CO1** On completion of the course the students will be able to learn different OR techniques useful in managerial decisions.

### **BBA6B 14 PROJECT MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** Understand the different concepts of managing a project

**CO2** Analyse the viability of a project.

### **BBA5B10 (Elective 1) INCOME TAX**

#### **COURSE OUTCOME**

**CO1** On completing the course the students will be able to understand the latest provisions of Income Tax Act Law and enable to compute different heads of income as well as total income and tax liability.

### **BBA5B11 (Elective 2) FINANCIAL MARKETS AND INSTITUTIONS**

#### **COURSE OUTCOME**

**CO1** The course helps to understand different aspects and components of financial Institutions and financial markets. This will enable the students to take rational decisions on financial market and institutions.

### **BBA6B15 (Elective 3) FINANCIAL SERVICES**

#### **COURSE OUTCOME**

**CO1** On completion of the course students will be able to aware of various financial services available in Indian financial system

### **BBA6B16( Elective 4) INVESTMENT MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** By completing the course students will be able to aware of various investment opportunities from an investor's perspective of maximizing return on investment.

### **BBA5B10 (Elective 1) CONSUMER BEHAVIOR'**

#### **COURSE OUTCOME**

**CO1** On completing the course students can apply the concepts for developing an effective advertising programme and new product.

### **BBA5B11(Elective 2): PRODUCT AND BRAND MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** While completing the course students will be able to apply the concepts for developing an

effective advertising programme and new product

### **BBA6B15 (Elective 3) ADVERTISING AND SALES PROMOTION**

#### **COURSE OUTCOME**

**CO1** Understand the process of advertisement

**CO2** Apply the concepts for developing an effective advertisement copy

**CO3** Examine the various sales promotion strategies towards traders and consumers.

### **BBA6B16 (Elective 4) SUPPLY CHAIN AND LOGISTICS MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** The students will be able to examine the details of planning and control processes in logistics management. The student at the end of the course will be able to understand the various logistics operations and their importance in improving the business

### **BBA5B10 (Elective 1) HUMAN RESOURCES PLANNING AND DEVELOPMENT**

#### **COURSE OUTCOME**

**CO1** Understand the process of HR planning

**CO2** Develop an awareness on various concepts relating to HR planning and development

### **BBA5B11 (Elective 2) INDUSTRIAL RELATIONS**

#### **COURSE OUTCOME**

**CO1** Understand Industrial Relations Systems.

**CO2** Develop an awareness of various stakeholders of IR

**CO3** Understand the importance of Industrial Relations in the global perspective

**CO4** Familiarize with the concepts of industrial relations in business

### **BBA6B15 (Elective 3) PERFORMANCE MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** On completing the course the students will be able to gain an understanding of the concepts, techniques of performance management

### **BBA6B16 (Elective 4) MANAGEMENT TRAINING AND DEVELOPMENT**

#### **COURSE OUTCOME**

**CO1** On completing the course the students will be able to gain an understanding of the concepts, tools and techniques of management training and development.

## **BBA5D01 TOURISM MANAGEMENT**

### **COURSE OUTCOME**

**CO1** On completing the course students will be able to know about the significance of tourism development and the role of transport, hotel and travel agencies in developing tourism .

## **BBA5D02 E- COMMERCE**

### **COURSE OUTCOME**

**CO1** On completing the course the students will be able to Understand the practice of Ecommerce, e payment and also the security issues.

## **BBA5D03 BUSINESS ORGANISATION AND COMMUNICATION**

### **COURSE OUTCOME**

**CO1** Know the conceptual knowledge on various forms of business organisation and also understand the importance of business communication.

**CO2** Develop their oral and written communication skills needed in business fields.

## **B. Com**

### **COURSE OUTCOME**

#### **BCM1B01 BUSINESS MANAGEMENT**

##### **COURSE OUTCOME**

**CO1** Understand the concept of Management.

**CO2** Understand the importance of Management in a global perspective.

**CO3** Understand the differences between management and leadership in real life situations.

**CO4** Analyze the concept of corporate social responsibility towards various stake holders.

**CO5** Understand about the most modern techniques of management practiced in developed countries.

#### **BCM1C01 MANAGERIAL ECONOMICS**

##### **COURSE OUTCOME**

**CO1** Understand Macro & Micro economics & its role in managerial decision making.

**CO2** Understand the concept of law of diminishing marginal utility theory.

**CO3** Understand the structure and importance of different types of markets.

**CO4** Understand the role played by government in regulating Indian economy

**CO5** Understand a conceptual knowledge regarding India's foreign trade and the application of this knowledge in securing business opportunities.

#### **BCM2B02 FINANCIAL ACCOUNTING**

##### **COURSE OUTCOME**

**CO1** Students learn to prepare accounts even from incomplete information.

**CO2** The learner learns to prepare Company accounts

**CO3** Understands the concept of debentures and learns to account for debentures.

**CO4** Understand the application of IFRS in Companies

**CO5** Critically learns 'AS' and IFRS.

## **BCM2C02 MARKETING MANAGEMENT**

### **COURSE OUTCOME**

**CO1** The learner understands the core marketing concepts and consumer buying behaviour

**CO2** The Scholar learns the concept of creating and capturing value.

**CO3** Understand the concept of marketing channels in the competitive environment.

**CO4** Learns to enrich the firm's competitive strength.

**CO5** Understand and develop an idea about the latest trends in e-commerce and e-marketing.

## **BCM3A11 Basic Numerical Methods**

### **COURSE OUTCOME**

**CO1** The learner learns the concepts of equations and quadratic formula.

**CO2** Facilitates the scholar to use matrices for large volume data processing.

**CO3** This helps to solve problems involving arithmetic and geometric progressions.

**CO4** Able to choose the right mode of interest and EMI for debt repayment

**CO5** Develop the skill of using descriptive statistical tools.

## **BCM3A12 PROFESSIONAL BUSINESS SKILLS**

### **COURSE OUTCOME**

**CO1** Facilitates easy business communication

**CO2** Improved knowledge of E-learning resources and its delivery broadens vision and insight of management.

**CO3** Knowledge of artificial intelligence and data analysis helps to diversify and grow business cutting across obstacles

**CO4** Knowledge of existing national and international cyber laws makes communication and business easier.

**CO5** Digital marketing and its application of social media channels and advertisements enhances changes and horizon of business.

## **BCM3B03 BUSINESS REGULATIONS**

### **COURSE OUTCOME**

**CO1** Helps to establish and run business as directed by the government.

**CO2** Knowledge of Indian Contract Act 1872 helps to enter into valid contracts in life and business.

**CO3** Learning of Sale of Goods Act helps to do business keeping all legal formalities.

**CO4** Understanding of the privileges and rights of consumers helps to do legally standing business admitting the status of the customers; increases business and relationships in the long run.

**CO5** Able to create LLP business with sound legal knowledge.

### **BCM3BO4 CORPORATE ACCOUNTING**

#### **COURSE OUTCOME**

**CO1** Becomes competent to prepare accounts related with redemption of preference shares, bonus shares, right issue of shares and buy back of shares.

**CO2** Realizes the concept of preparation of final accounts of banking companies.

**CO3** Develop the skill of preparation of final accounts of life insurance companies.

**CO4** Able to prepare the final accounts of group companies.

**CO5** Understand the concept of disclosure based accounting standard and interim reporting.

### **BCM3C03 Human Resources Management**

#### **COURSE OUTCOME**

**CO1** Knowledge of human resource management helps to run business effectively.

**CO2** Understand the necessary skills required for the employment in an organization.

**CO3** Familiarity with the induction and organizational training practices helps to have effective trained work force in the organisation..

**CO4** Understand the concept of career planning and performance appraisal.

**CO5** Insight on compensation and grievance management practices helps to take effective and appropriate decisions on time.

### **BCM4A13 ENTREPRENEURSHIP DEVELOPMENT**

#### **COURSE OUTCOME**

**CO1** It motivates the learner to become an entrepreneur

**CO2** Knowledge of supports available helps to reap the benefits of easily

**CO3** It is intended to trigger the mind set of youth to establish and run MSMEs in life

**CO4** Knowledge of establishing industrial units helps to start with business units easily.

**CO5** The learner can draft and finalise project report without external helps and supports.

### **BCM4A14 BANKING AND INSURANCE**

## **COURSE OUTCOME**

**CO1** Candidates get clear picture of the banking business India and he can plan accordingly.

**CO2** Knowledge of negotiable instruments, features & formalities helps to deal with care.

**CO3** This helps the candidate to be up-to-date in banking formalities and fund transfer.

**CO4** Knowledge of insurance business helps to hedge, avoid, and reduce risk in business.

**CO5** Knowledge of LIC and IRDA helps to move with Insurance people with confidence.

## **BCM4B05 COST ACCOUNTING**

### **COURSE OUTCOME**

**CO1** The learner gets insights into the costing and cost accounting tools and techniques.

**CO2** The learner understands the scientific material cost control measures in use.

**CO3** The scholar gets used to the scientific labour and overhead cost control measures.

**CO4** Knowledge of various methods of costing helps the learner to practice in life.

**CO5** Variance analysis helps to identify its causes and take corrective actions.

## **BCM4B06: CORPORATE REGULATIONS**

### **COURSE OUTCOME**

**CO1** Knowledge of Indian Companies Act gives the legislative backgrounds of a company.

**CO2** The candidate knows the formalities for formation of a company which will help to form more corporates in life.

**CO3** The knowledge of raising funds will help the candidate to choose between debt and equity easily

**CO4** The candidate can easily manage a company as he knows the rights, duties and powers of all positions.

**CO5** Knowledge of situations when a company may go for liquidation helps to run the business effectively.

## **BCM4C04 QUANTITATIVE TECHNIQUES FOR BUSINESS**

### **COURSE OUTCOME**

**CO1** Knowledge of QT broadens vision and outlook of the candidate to face business problems.

**CO2** Understanding of correlation and regression analysis helps to predict with greater degree of accuracy.

**CO3** Awareness of probability and other theories helps to have critical thinking and rational decisions.

**CO4** Familiarity with theoretical distributions helps to correlate issues with standard theories and take decisions.

**CO5** Knowledge of LPP and modeling will be of great help in decision making.

### **BCM5B07 ACCOUNTING FOR MANAGEMENT**

#### **COURSE OUTCOME**

**CO1** To make the learner aware of the methodologies of Management Accounting

**CO2** It is to make the candidate learn how to conceive and interpret financial statements

**CO3** Ratios are very helpful tools for analysis and interpretations.

**CO4** Knowledge of movements in working capital helps to check/control flow of funds/cash.

**CO5** Knowledge of CVP analysis will be of great help for managerial decision making.

### **BCM5B08 BUSINESS RESEARCH METHODS**

#### **COURSE OUTCOME**

**CO1** The learner knows the primary matters of business research

**CO2** The student know how to fix a research design, scaling checking validity etc

**CO3** The candidate knows the method of data collection and its processing and validation.

**CO4** The learner knows to process collected data, test hypothesis and arrive at conclusions

**CO5** The student knows well how to write an academic report and present it

### **BCM5B09 INCOMETAX LAW AND ACCOUNTS**

#### **COURSE OUTCOME**

**CO1** To understand the method and methodology of taxation on income in India.

**CO2** To learn the provisions related to computation of Taxable Salary Income.

**CO3** Knowledge of taxing income from house property helps the learner to compute taxable income under the head House Property correctly.

**CO4** Knowledge of computing income under the head profits and gains of business or profession helps the learner to do it effectively in life.

**CO5** Knowledge of computing income under the head Capital Gains and other sources makes the learner self-confident and competent to practice income tax.

## **BC6B12 INCOME TAX & GST**

### **COURSE OUTCOME**

**CO1** Students will be able to Compute tax liability of individuals

**CO2** The Learner can do filing of returns of income meeting statutory obligations

**CO3** The scholars understand the concept of GST and e-filing procedures

**CO4** The candidates understand the offences and penalties under the Acts.

**CO5** The Learner learns the rights, duties and powers of CAG and tax authorities

## **Specialisation: Finance**

### **COURSE OUTCOME**

#### **(A2) BCM5B11 FINANCIAL MANAGEMENT**

### **COURSE OUTCOME**

**CO1** Knowledge of financial management and time of value money helps decisions making effective.

**CO2** Understanding of capital investment evaluation techniques makes investment selection easier.

**CO3** Familiarity with cost of capital helps to use capital judiciously

**CO4** Knowledge of dividend policies helps to take appropriate decision on dividend

**CO5** Helps to have effective working capital management.

#### **(A3) BCM6B14 Fundamentals of Investment**

### **COURSE OUTCOME**

**CO1** Develops a broad understanding of the concept of investment management

**CO2** Learn security valuation of bonds, preference shares and equity shares

**CO3** Study calculation of return on investment and expected return through examples

**CO4** Understand analysis of securities, approaches, tools, stock charts, patterns and theories

**CO5** Understands portfolio management, analysis and redress issues easily.

#### **(A4) BCM6B15 Financial Derivatives**

## COURSE OUTCOME

**CO1** This helps to master capital market segment and derivatives market

**CO2** This develops knowledge on derivatives trading and its legal framework

**CO3** It helps to differentiate between various types of derivatives.

**CO4** Understand the trading strategies adopted on option trading

**CO5** It helps to learn forwards, futures, and swaps.



## **B.COM ISLAMIC FINANCE**

### **COURSE OUTCOME**

#### **BCM5B10 Introduction to Islamic Commercial Banking**

### **COURSE OUTCOME**

**CO1** Learning of Islamic banking helps to get advances when needed

**CO2** Understanding of Islamic Banking helps to open, operate & maintain accounts with them.

**CO3** One can make use of the equity based financial products offered by Islamic banks

**CO4** If interested one can make use of the debt based products offered by Islamic banks.

**CO5** Islamic banks offer leasing also which can be made use of if needed.

#### **BCM5B11 Fundamentals of Islamic Commercial law**

### **COURSE OUTCOME**

**CO1** To use the knowledge of Islamic Finance for betterment of self and business.

**CO2** To make use of Islamic economic, prohibitions and promotions for business.

**CO3** Insights on Islamic law of contract help to have fair dealings with such organisations.

**CO4** Knowledge of Islamic commercial law helps to enter into valid beneficial contracts.

**CO5** Understanding of Loan, debt and time value of money helps to do business well.

#### **BCM6B14 Foundations of Islamic Accounting Theory and Practice**

### **COURSE OUTCOME**

**CO1** The students will be able to understand the Islamic accounting framework.

**CO2** Students become aware on the salient features of Islamic accounting standards.

**CO3** Students knows the practice of accounting for Musharakah, Mudarabah, Ijarah etc.

**CO4** Students get a clear idea on the practice of diminishing Musharakah.

**CO5** It helps to identify accounting appropriate for Islamic business organisations.

#### **BCM6B15 Islamic Investment Funds and Insurance**

### **COURSE OUTCOME**

**CO1** The students get an idea on the basic concepts of Islamic capital market.

**CO2** The students learn the basic concepts and characteristics of Takaful.

**CO3** It teaches students to list out Takaful being used by the Islamic banks today.

**CO4** Students become knowledgeable on the concept of Sukuk.

**CO5** The students will be aware on the different kinds of investment funds.

**CO6** Learner gets knowledge on Islamic capital market and Islamic Market Indices.

## **BCM6B16 PROJECT REPORT**

### **COURSE OUTCOME**

**CO1** Students get clear idea on idea generation, topic selection, factors to be considered before selection of a topic, drafting methodology, sampling, etc.

**CO2** Gets insight on collection, tabulation, processing, analysis and interpretation of data clearly.

**CO3** Students get clarity of expressions and judgments.

**CO4** Students get acquainted with the forms, formalities and methodology of presenting an academic document.

**CO5** It improves skill, enthusiasm and a spirit of inquisitiveness among younger generations to look further and further and elicit hidden facts before the academia.

# **B.A. ECONOMICS**

## **COURSE OUTCOME**

### **Semester I**

#### **MICROECONOMICS – I**

##### **COURSE OUTCOME**

**CO1** Students explain what economics is and explain why the subject is important

**CO2** Students explain how economists use economic models

**CO3** Students understand the scarcity and choice in the economy and the basic problems of an economy.

**CO4** Students explain and illustrate market equilibrium and disequilibrium

**CO5** Students analyse how consumers maximize the total utility within a given income using the utility maximizing rule.

**CO6** Students describe how consumer's utility changes when income or price change.

**CO7** Students define the term production and explain what a production function is; define and differentiate between marginal, average and total product; compute and graph marginal, average and total product.

**CO8** Students define and differentiate between different cost concepts and interpret the relation between long run and short run costs.

### **Semester II**

#### **MACROECONOMICS I**

##### **COURSE OUTCOME**

**CO1** Students appreciate the context in which Macroeconomics emerged as a separate discipline.

**CO2** Students understand the concepts regarding macroeconomic model building.

**CO3** Students understand and evaluate different concepts and measurements of national income

**CO4** Students explain how output and employment are determined in classical and Keynesian systems of economics.

**CO5** Students explain and analyse why actual output will fall short of the productive capacity of the economy.

**CO6** Students evaluate fiscal policies of Governments at different situations.

**CO7** Students understand and generalize the concept of money and money supply in the economy and evaluate monetary policy of different Governments.

## Semester III

### QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS – I

#### COURSE OUTCOME

**CO1** Students understand and demonstrate sound quantitative skills to collect analyse and interpret empirical data related to socio-economic issues.

**CO2** Students understand the skill in statistical and mathematical techniques that are required for a meaningful study of applied economics and for carrying out empirical analysis.

**CO3** Students generalizes skills in quantitative analysis and apply it to study the concepts in most branches of economics

**CO4** Students solve and analyse the data using Spread Sheet

**CO5** Students draw graphs with the help of economic data

**CO6** Students analyse and apply different techniques of correlation and regression analysis.

### MICROECONOMICS II

#### COURSE OUTCOME

**CO1** Students understand the difference between the firm and industry; explain and illustrate Demand curve, Average Revenue curve and Marginal Revenue curve of a perfectly competitive firm.

**CO2** Students understand and determine the break-even and shut down points of production for a perfectly competitive firm; understand why perfectly competitive markets are efficient.

**CO3** Students define and analyse the characteristics of monopoly and explain the sources of barriers to entry.

**CO4** Students explain why a monopoly is inefficient using dead weight loss; differentiate between a single price monopolist and a price discriminating monopolist.

**CO5** Students define the characteristics of a monopolistically competitive industry and explain the difference between short run and long run equilibrium in a monopolistically competitive industry.

**CO6** Students define characteristics of oligopolies and explain why collusion can occur in oligopolistic industries.

**CO7** Students explain pricing and employment of factor inputs and define demand for and supply of factor inputs.

**CO8** Students explain equilibrium in competitive factor market and factor market with monopoly power.

## Semester IV

### QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS – II

#### COURSE OUTCOME

**CO1** Students understand the skill in the calculation of mathematical techniques that are required for a meaningful study of applied economics and other branches.

**CO2** Students understand and demonstrate sound quantitative skills to collect analyse and interpret empirical data related to socio- economic issues.

**CO3** Students understand and apply the concepts Derivatives and Marginal Concepts

**CO4** Students quantify economic variables and apply statistical techniques in Economics.

**CO5** Students understand and calculate different concepts coming under index number.

**CO6** Students analyse and apply different concepts coming under the areas of vital statistics

**CO7** Students understand and solve different problems of probabilities.

### MACROECONOMICS – II

#### COURSE OUTCOME

**CO1** Students understand and derive IS-LM curves and use the framework to explain the working of an economy

**CO2** Students explain the way fiscal and monetary policy works and apply the concept of ISLM framework.

**CO3** Students explain the concept and measurement of inflation and unemployment

**CO4** Students explain the trade-off between inflation and unemployment as predicted by the Phillips curve and its collapse after the stagflation of 1970s.

**CO5** Students analyze different phases of trade cycle, and demonstrate various trade cycle theories

**CO6** Students understand and analyse the reasons for economic recessions and suggest the appropriate instruments of monetary and fiscal policy.

**CO7** Students measure the inflation in the economy and apply the concepts like WPI-CPI-PPI-GDP deflator.

## Semester V

### FISCAL ECONOMICS

#### COURSE OUTCOME

**CO1** Students define and differentiate public finance and private finance and to generalize the concept of maximum social advantage

**CO2** Students understand and explain the public expenditure and the effects and importance of public expenditure in India

**CO3** Students understand the cost-benefit analysis and apply its principle in the day today economic life.

**CO4** Students understand various concepts of tax, explain the tax and non tax revenue and compare and contrast the direct tax and indirect tax and its benefits.

**CO5** Students understand and develop the skill to calculate personal, corporate income tax and other taxes

**CO6** Students explain the types of public debt and analyse how debt is repaid

**CO7** Students describe government budget and budgeting and understand the different aspects of federal finance and local finance

**CO8** Students understand the federal finance, function of finance commissions and analyse Centre State financial relations

**CO9** Students understand NITI Aayog and explain local finances and functions and revenues

### INDIAN ECONOMIC DEVELOPMENT

#### COURSE OUTCOME

**CO1** Students explain the growth and structural changes happened in Indian economy from British period to till date.

**CO2** Students understand the background and programmes under new economic policy.

**CO3** Students Understand the place of Agriculture, Industry and service sector in India's economy.

**CO4** Students describe the causes and magnitude of poverty and unemployment in India.

**CO5** Students analyse various economic issues happening around us.

**CO 6** Students understand and evaluate numerical information relating to various aspects of Indian economy and India's economic policies.

**CO7** Students refer books related to Indian economy, collect clippings and articles from newspapers and magazines and also follow economic survey, economic review and RBI Bulletin.

**CO8** Students explore beyond the texts, conducts field visits and report economic events from field visits.

**CO9** Students analyse the basic characteristics of Kerala economy and evaluate the Kerala model with other economies.

## **ECONOMICS OF CAPITAL MARKET**

### **COURSE OUTCOME**

**CO1** Students understand the basic structure of financial system and classify financial market, financial instruments, financial assets, financial institutions and financial services

**CO2** Students understand the role and features of capital market and differentiate its instruments

**CO3** Students understand capital markets operations and classify different capital market instruments as per its characteristics.

**CO4** Students understand primary market and analyse the methods of issuing new issues

**CO5** Students analyse the stock indices of various stock exchanges.

**CO6** Students understand the basics of capital market to lead a career from capital market.

**CO 7** Students visits stock trading terminal so as to get an idea of the online buying and selling of shares.

**CO8** Students watch exclusive financial channels like CNBC TV 18, NDTV PROFIT etc, to get an idea of stock trading and capital market activities.

**CO9** Students read financial dailies like Economic Times, Business Line, Business Standard, Dhanam etc regularly in order to get a proper understanding of the terms and concepts and the working of capital markets

## **MATHEMATICAL ECONOMICS**

### **COURSE OUTCOME**

**CO1** Students understand the language of mathematical economics and internalize how the whole body of economics is been influenced by mathematical science.

**CO2** Students understand mathematical models and generalize various functions in economics

**CO3** Students explain different marginal concepts in mathematical economics and solve mathematically different concepts of elasticity.

**CO4** Students solve optimization problems in economics by applying mathematical tools

**CO5** Students analyse and solve problems related to production function, linear Programming and input output analysis

**CO6** Students solve the equilibrium of different market structure by using mathematical techniques.

**CO7** Students predict the economic variables from the existing data set

**CO8** Develop attitude to opt courses in economics in the institutes of high repute

**CO9** Students undertake minor research projects to apply the tools they assimilated.

## **Semester VI**

## **FINANCIAL ECONOMICS**

### **COURSE OUTCOME**

**CO1** Students understand the basic concepts in financial economics and the role of finance in the operation of an economy.

**CO2** Students understand and analyse different investment theories and the structure of interest rate in the formulation of a project.

**CO3** Students understand the fundamentals of valuation of bonds and securities.

**CO4** Students understand risk and return and analyse various types of risks. They evaluate the measurement of risk and return of an asset, measurement of risk and return of a portfolio.

**CO5** Students analyse cost of capital and capital asset pricing model

**CO6** Students explains derivatives and differentiate different derivatives like forward, future, options and swaps

**CO7** Students analyse the derivative market and evaluate different derivatives for investment.

**CO8** Students watch the conditions of financial markets and analyse its impact in the economy

**CO9** Students understand the operation of the Indian Financial System as a whole and find the place of financial assets in themarket.

## **INTERNATIONAL ECONOMICS**

### **COURSE OUTCOME**

**CO1** Students identify the basic difference between inter-regional and international trade and understand how international trade has helped countries to acquire goods at cheaper cost, and explain it through the various international trade theories.

**CO2** Students evaluate how international trade promotes economic development. Students compare and contrast different trade theories.

**CO3** Students understand the ways in which free trade and restrictive trade policies could be practiced

**CO4** Students identify the issues and prospects of current international trade order with respect to India and its major trade partners

**CO5** Students understand the functioning of foreign exchange markets in the world

**CO6** Students relate different exchange rate systems with the current systems of foreign exchange determination across the globe

**CO7** Students calculate the Balance of payments (BOPs) of nations and analyse different instruments to clear BOP disequilibrium

**CO8** The students are expected to acquire skill that will help them to take rational decisions in issues related to international economics.

**CO9** Students understand the role of international agencies in promoting world trade and economic cooperation.

## **DEVELOPMENT OF ECONOMIC THOUGHT**

### **COURSE OUTCOME**

**CO1** Students understand and generalize the development of economic thinking and economic analysis and explain the historical evolution of economic thought

**CO2** Students understand developments in major field of economics and explain different Schools of thought in economics

**CO3** Students recognize some of the great economist from antiquity to contemporary times

**CO4** By the end of this course students identify the major ideas associated with each group or thinker studied, and thereby the origins of contemporary theory are better comprehended

**CO5** Students evaluate different streams of economic thinking as well some personalities who had a major impact on the history of economic thought

**CO6** Students identify theories that radically differ from modern mainstream theories of economics and thereby recognize that the theoretical basis of economics has been, and continues to be, contested.

**CO7** Students analyse and differentiate the philosophy of physiocrats and mercantilism.

**CO8** Students analyse and appreciate the contribution of British political economy and the rise of socialism.

**CO9** Students appreciate early and modern Indian thoughts on economics.

## **ECONOMICS OF GROWTH AND DEVELOPMENT**

### **COURSE OUTCOME**

**CO1** Students understand the theoretical framework for growth and development discourses under different schools of economic thoughts and develop better insights and knowledge on issues and challenges on economic development.

**CO2** Students analyze the factors affecting the long run economic growth, both from a positive and negative sense.

**CO3** Students understand various theories of growth and development and analyse the problems of the developing world.

**CO4** Students differentiate growth and development and measures growth and development by using different techniques like HDI, HPI etc.

**CO5** Students develop attitudes towards the problems of underdevelopment and evaluate different policies and theories to overcome the issues of underdevelopment.

**CO6** Students analyse and evaluate Neoclassical growth models.

**CO7** Students identify the problems of poverty and inequality and analyse the measures and

**CO8** Students internalize the concept of Sustainable development, identify various environmental issues and appreciate the values of sustainable development.

## **RESEARCH METHODOLOGY**

### **COURSE OUTCOME**

**CO1** Students understand the importance of research methodology and its basic tools for understanding the social reality

**CO2** Students understand different types of research and familiarize the student with the quantitative and qualitative strategies of research in social science.

**CO3** Students understand the importance of literature review in the projects and review various journals and research papers for their projects.

**CO4** Students analyse various research design and methods

**CO5** Students understand the methods of collecting data and analyse hypothesis.

**CO6** Students report projects in a systematic way.

**CO7** After completing this course the students prepare research projects and work with a research problem..

## **BASIC ECONOMETRICS**

### **COURSE OUTCOME**

**CO1** Students define econometrics and understand the basic econometric techniques and their applications.

**CO2** Students analyse empirical work in economics and use actual economic data to test economic theories.

**CO3** Students understand and analyse statistical concepts of hypothesis testing, estimation and diagnostic testing of simple and multiple regression models etc

**CO4** Students with foundation in econometric analysis, develop skills required for empirical research in economics

**CO5** Students analyze and solve simple Linear Regression Model and theories related to it

**CO6** Students analyze two variable regression models and multiple regression models and apply these theories for the empirical analysis of data available to them

**CO7** Students analyse and solve Econometric Problems like Multicollinearity and Heteroskedasticity

**CO8** Students develop an attitude for conducting empirical works in economics and they appreciate the econometric works.

## **BEHAVIORAL ECONOMICS**

### **COURSE OUTCOME**

**CO1** Students understand the economic decision making process and role of psychology

**CO2** Evaluate the importance of psychology in behavioural economics

**CO3** Understand the role of choice in theoretical formulations

**CO4** Critically discuss the behavioural concepts in real situations and game theory

## **URBAN ECONOMICS**

### **COURSE OUTCOME**

**CO1** Students understand the fundamental terminologies of urban economics

**CO2** Students Identify the problems associated with urbanisation

**CO3** Understand the theories and analytical tools in urban economics

**CO4** Evaluate the policy initiatives developed in urban India

## **OPEN COURSES**

### **ECONOMICS IN EVERYDAY LIFE**

#### **COURSE OUTCOME**

**CO1** Non economic students understand the basic concepts in economics and recognize the importance of economic science in their everyday life.

**CO2** Students understand and explain basic concepts from micro and macro economics

**CO3** Students develop interest to understand the working of an economy

**CO4** Students understand and evaluate the working of budgetary system in an economy

### **INDIAN FINANCIAL SYSTEM**

#### **COURSE OUTCOME**

**CO1** Non economic students understand the conceptual framework of Indian financial Institutions and markets and their operations.

**CO2** Students understand the components of financial system and explain how these elements are associated with everyday life

**CO3** Students develop interest to understand more about Indian financial system and markets

**CO4** Students explain and evaluate the role of RBI in controlling financial system

**CO5** Students develop interest toward the financial market operations

### **KERALA ECONOMY**

#### **COURSE OUTCOME**

**CO1** Non economics students understand and analyse the basic characteristics of Kerala economy.

**CO2** Students understand and explain the various economic sectors of Kerala with special reference to agriculture, industries and service sector

**CO3** Students develop interest to understand more about Kerala economy.

**CO4** Students evaluate different sectors of Kerala economy

## COMPLEMENTARY COURSES

### INTRODUCTORY ECONOMICS I

#### COURSE OUTCOME

**CO1** Students explain what Economics is and explain why it is important

**CO2** Explain how economists use economic models

**CO3** Understand the scarcity and choice in the economy and the basic problems of an economy.

**CO4** Explain and illustrate the basics of market demand and supply and the concept of market equilibrium and disequilibrium.

**CO5** Students illustrate the concepts of elasticity of demand and cost functions.

**CO6** Define the term production and explain what a production function is; define and differentiate between marginal, average and total product; compute and graph marginal, average and total product and explain marginal productivity theory.

**CO7** Students distinguish various concepts of national income and estimate the national income of a country.

**CO8** Define and differentiate the basic premises of classical and Keynesian economics.

### INTRODUCTORY ECONOMICS II

#### COURSE OUTCOME

**CO1** Students define the concept of money and explain different concepts and theories of money.

**CO2** Students understand the basic elements of public finance and explain the theory of maximum social advantage

**CO3** Students understand the principle of federal finance and explain the role of finance commission.

**CO4** Students explain and illustrate the basics of international trade and analyse various concepts associated with trade.

**CO5** Students understand the basic characteristics of Indian economy and analyse various economic issues of Indian economy.

**CO6** Students define NITI Ayog and understand the functions of it.

## **CO-OPERATION – I**

### **COURSE OUTCOME**

**CO1** Students define the concept of Co-operation and other business enterprises and understand the role of cooperative movements in a dynamic economy.

**CO2** Students understand and analyse the cooperative movements of some foreign countries.

**CO3** Students explain and understand the origin and development of Co-operative Movements in India-Co-operative Legislations and Administrations-Recent developments.

**CO4** Students understand the principle of cooperative banking and analyse its functioning

**CO5** Students understand the role of Co-operative Agricultural and Rural Development Banks- Refinancing of Co-operative Banks- Role of NABARD and other agencies.

## **CO-OPERATION II**

### **COURSE OUTCOME**

**CO1** Students define the concept of agriculture Co-operatives and other related agriculture cooperatives associated to it.

**CO2** Students understand and analyse the non agriculture cooperative movements such as Consumers,, Co-operatives- Co-operative Housing- Urban Co-operative Credit Societies- Industrial Co-operatives-Workers,, Co-operative-Dairy Co-operatives

**CO3** Students explain and understand the role of human resource development in cooperatives.

**CO4** Students understand and explain the history & role of Co-operative movement in Kerala

**CO5** Students understand and analyse the role SHG and Kudumbashree in the cooperative movement of Kerala

## **BANKING-I**

### **COURSE OUTCOME**

**CO1** Students define the bank, classify different banks and analyse the various roles of banks in the economy.

**CO2** Students understand the various structures of banks and illustrate balance sheet and managements of funds.

**CO3** Students explain various negotiable instruments and classify them on the basis of characteristics.

**CO4** Students understand and explain the innovations in the banking sector and apply the knowledge in their day to day banking practices.

## **BANKING II**

## **COURSE OUTCOME**

**CO1** Students understand rural banking in India and analyse the three tier structure of banks in the country.

**CO2** Students understand and analyse various banking sector reforms in the country.

**CO3** Students explain role and function of RBI and classify different monetary policy instruments.

**CO4** Students understand and explain the role of development banks in India and classify development banks

## **MATHEMATICAL TOOLS FOR ECONOMICS-I**

### **COURSE OUTCOME**

**CO1** Students understand the language of mathematical economics and internalize how the whole body of economics is been influenced by mathematical science.

**CO2** Students understand mathematical models and generalize various functions in economics

**CO3** Students solve linear and nonlinear equations and related problems.

**CO4** Students solve problems from set theory and apply it in economic problems.

**CO5** Students apply the graph theories to illustrate and solve economic problems.

**CO6** Students solve the equilibrium of different market structure by using mathematical techniques.

**CO7** Students solve the problems related to matrices and determinants and apply them in economic problems.

**CO8** Develop attitude to opt courses in economics in the institutes of high repute

**CO9** Students undertake minor research projects to apply the tools they assimilated.

## **MATHEMATICAL TOOLS FOR ECONOMICS – II**

### **COURSE OUTCOME**

**CO1** Students understand the language of mathematical economics and internalize how the whole body of economics is been influenced by mathematical science.

**CO2** Students understand and solve the problems related to derivatives and explain different rules of differentiation.

**CO3** Students apply the theories of derivative in economics.

**CO4** Students solve problems from calculus and multivariable functions and apply it in economic problems.

**CO5** Students apply the basic concept of Integration, rules of Integration to solve economic problems.

**CO6** Students solve the equilibrium of different market structure by using mathematical techniques.

**CO7** Develop attitude to opt courses in economics in the institutes of high repute

**CO8** Students undertake minor research projects to apply the tools they assimilated.



# **B.A. ENGLISH LANGUAGE AND LITERATURE**

## **COURSE OUTCOME**

### **SEMESTER I**

#### **ENG1B01 INTRODUCING LITERATURE**

##### **COURSE OUTCOME**

**CO1** Differentiate between with the different aspects of the language of literature.

**CO2** Discover the linguistic structures of poetic texts.

**CO3** Distinguish diverse points of view within a single text and locate the rationale of polyphony.

**CO4** Determine and interpret the dominant voice/s within the text and its agendas.

**CO5** Discriminate marginalized voices and determine themselves to the voices of the child, Dalit, transgender and female.

### **SEMESTER II**

#### **ENG2B02 APPRECIATING POETRY**

##### **COURSE OUTCOME**

**CO1** Outline the basic elements of poetry, the stylistic and rhetorical devices and various genres of poetry.

**CO2** Analyze and identify the trends in poetry and the linguistic structures of poetic texts.

**CO3** Discover various perspectives in reading poetry like gender, race, caste, ethnicity, religion, region, environment and nation.

**CO4** Define different forms of poetry in British and American literature and classify different forms and themes of poetry across the globe in the history of literature.

**CO5** Appreciate poetry as an art form.

### **SEMESTER III**

#### **ENG3B03 APPRECIATING PROSE**

##### **COURSE OUTCOME**

**CO1** Develop critical thinking.

**CO2** Interpret and appreciate different types of prose.

**CO3** Identify different styles of prose writing and understand the use of literary devices.

**CO4** Identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts

**CO5** Develop creative writing skills.

#### **ENG3B04 ENGLISH GRAMMAR AND USAGE**

##### **COURSE OUTCOME**

**CO1** Determine the key concepts of English grammar and to apply them more sensitively in their day-to-day communication needs.

**CO2** Manipulate the language in a better way by understanding of the sentence patterns in English.

**CO3** Develop a sense of English grammar, idioms, syntax, semantics and their usage

**CO4** Develop the logical and analytical skills in the use of language for communication.

**CO5** Appraise contemporary English usage.

#### **SEMESTER IV**

#### **ENG4B05 APPRECIATING FICTION**

##### **COURSE OUTCOME**

**CO1** Develop critical thinking and imagination through long and short fiction

**CO2** Interrelate cultural diversity through different representative samples of fiction.

**CO3** Discover the pleasures in reading fiction.

**CO4** Critique human condition and the complexities of life.

**CO5** Discover different types of fiction and analyze them.

#### **ENG4B06 LITERARY CRITICISM**

##### **COURSE OUTCOME**

**CO1** Differentiate between judgment and appreciation.

**CO2** Identify various movements and schools of thought

**CO3** Critique plays, passages and poems

**CO4** Recognize the history and principles of literary criticism since Plato

**CO5** Develop the philosophical and critical skills with which literature can be appreciated.

**CO6** Appraise important texts and movements in the history of literary criticism.

**CO7** Demonstrate how literary criticism shapes literature and culture across centuries.

**CO8** Recognize and critique the major arguments underlying critical writings.

**CO9** Compare and contrast critical perspectives of Indian Poetics and Western critical concepts.

## **SEMESTER V**

### **ENG5B07 APPRECIATING DRAMA AND THEATRE**

#### **COURSE OUTCOME**

**CO1** Establish and illustrate the basic elements of drama, including the historical progress of drama in different continents.

**CO2** appreciate drama as an art form.

**CO3** Identify the different genres and masters of drama.

**CO4** assess the theatrical performances and the texts and evaluate them critically from various standpoints.

**CO5** Explain the insights, conventions and experimentations associated with English Drama.

**CO6** Demonstrate how writers use the resources language as a creativity

**CO7** Point out the entire range of human experience through drama as a literary form.

### **ENG5B08 LITERARY THEORY**

#### **COURSE OUTCOME**

**CO1** Develop an understanding of important texts and movements in the history of literary theory.

**CO2** Critique literature and culture in the context of theory.

**CO3** Develop various perspectives of thinking and critique the major arguments presented in theory.

**CO4** Construct a pluralistic perspective of culture and literature in a multicultural society.

**CO5** Identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts .

**CO6** Identify the origin of critical ideas in literature

**CO7** Define the function of criticism.

## **ENG5B09 LANGUAGE AND LINGUISTICS**

### **COURSE OUTCOME**

**CO1** Recognize key concepts of Linguistics and develop awareness of latest trends in Language Study

**CO2** Point out the features of languages, their sounds, their ways of forming words, their sentence structures, and their systems of expressing meaning.

**CO3** Examine through an objective study the relation of language with human mind and communicative action

**CO4** Operate the features of pronunciation and their general standards in every day conversation and in reading.

**CO5** Develop a sense of English syntax and will be able to provide complete syntactic analyses for sentences of English

**CO6** Develop a sense of awareness of principles of language that govern the distribution of morphology and how morphology interacts with other components of language.

**CO7** Recognize the fundamental topics in semantics and develop a concept of different semantic levels.

## **ENG5B10 INDIAN WRITING IN ENGLISH**

### **COURSE OUTCOME**

**CO1** Correlate the various phases of the evolution of Indian writing in English.

**CO2** Delineate the thematic concerns, genres and trends of Indian writing in English .

**CO3** Recognize the pluralistic aspects of Indian culture and identity.

**CO4** Determine how and why Indian literature emerged as a distinct field of study.

**CO5** Identify the development of history of Indian English literature from its beginning to the present day.

**CO6** Interpret the works of great writers of Indian writers in English.

**CO7** Demonstrate, through discussion and writing, an understanding of significant cultural and societal issues presented in Indian English literature.

## **SEMESTER VI**

### **ENG6B11 VOICES OF WOMEN**

#### **COURSE OUTCOME**

**CO1** Generalize and infer on what grounds women's writings can be considered as a separate genre.

**CO2** Interpret texts written by Women writers across different cultures.

**CO3** Differentiate between sex and gender and how the latter is a social construction.

**CO4** Identify the issues and concerns of the women writers of the developed, developing and under-developed countries.

**CO5** Identify the misconceptions regarding women and to evolve a human perspective about them.

**CO6** Develop a keen interest in analysing critically the diversity of women's experiences across the world and to marvel at their creative skills.

### **ENG6B12 CLASSICS OF WORLD LITERATURE**

#### **COURSE OUTCOME**

**CO1** Identify the classic literature and thereby composite cultures of the world

**CO2** Develop cross cultural perspectives

**CO3** Classify literary texts in English or English translation in terms of their main stylistic and thematic features.

**CO4** Describe the literary, historical, social and cultural backgrounds of these texts.

**CO5** Identify some of the main theoretical and methodological issues involved in reading World Literature.

### **ENG6B13 FILM STUDIES**

#### **COURSE OUTCOME**

**CO1** Appraise film as an art form and its aesthetics.

**CO2** Relate and connect film with history, politics, technology, psychology and performance.

**CO3** Appraise the nature of representation on screen and how class, race ethnicity and sexuality are represented.

**CO4** Develop analytical skills so that the student can produce informed and thorough close readings of films.

**CO5** Discover the articulation of a film's content, form and structure.

**CO6** Identify and define the formal and stylistic elements of film.

**CO7** Develop an understanding of film language and terminology, and analyze the ways in which that this language constructs meaning and ideology.

**CO8** Identify and interpret significant film movements and key concepts.

**CO9** Point out the diverse forms of the moving image, including, for example, the feature film, experimental and avant-garde cinema, video art and moving image installation, television and digital media.

### **ENG6B14 NEW LITERATURES IN ENGLISH**

#### **COURSE OUTCOME**

**CO1** Distinguish diverse cultures and modes of expression.

**CO2** Discuss issues of cultural plurality and hybridity

**CO3** Identify literary negotiations of colonization and decolonization, identity, inequality, marginalization and so on.

**CO4** Point out the canon of English literature, Commonwealth literature, Post Colonialism and the context of New Literatures

#### **ELECTIVES**

### **ENG6B15 LITERATURE OF THE MARGINALIZED**

#### **COURSE OUTCOME**

**CO1** Identify the various aspects of marginality such as dalit, female, child and sexual minorities.

**CO2** Evaluate the subaltern perspectives reflect in literature.

**CO3** Identify how the marginality is often a contextual factor related to the socio cultural reality.

**CO4** Critique the process of evolution of marginality and the formation of stereotypes.

**CO5** Classify the evolving patterns of generic and other technical possibilities that the marginalized use to represent their predicament.

### **ENG6B16 DIGITAL LITERATURE AND ENGLISH**

#### **COURSE OUTCOME**

**CO1** Illustrate various forms of e-literature.

**CO2** Discover the important concepts like digital literature, digital humanities, hypertexts, cyberpunk literature, blogging and vlogging.

**CO3** Develop the critical skill with which e- literature can be appreciated.

**CO4** Formulate the socio cultural aspects of literature of various nations.

### **ENG6B17 WRITING FOR THEMEDIA**

#### **COURSE OUTCOME**

**CO1** Discuss the specificities and possibilities of the different kinds of media.

**CO2** Identify various writing styles in media.

**CO3** Develop technical and creative skills to write for the media.

**CO4** Assess and critique the latest trends in media.

### **ENG6B18 TRANSLATION STUDIES**

#### **COURSE OUTCOME**

**CO1** Describe the basic theories of translation studies.

**CO2** Develop an in-depth knowledge about the diverse techniques and strategies of translation.

**CO3** Develop the skill to translate texts from one language to other.

**CO4** Identify the cultural and dialectical nuances of a literary text and translate it to another language without losing its flavour.

### **ENG6B19 ENGLISH LANGUAGE EDUCATION**

#### **COURSE OUTCOME**

**CO1** Outline the origin and evolution of English Language

**CO2** Develop an in-depth knowledge about the theories of English language teaching.

**CO3** Develop the skill to effectively transact language items to the class

**CO4** Identify the strategies and methods that best suit the classrooms for English language teaching

### **ENG6B20 SHAKESPEARE**

#### **COURSE OUTCOME**

**CO1** Read and appreciate the works of Shakespeare

**CO2** Develop awareness about the universal appeal and the literary charm of Shakespeare's works

**CO3** Develop knowledge about drama, practice of drama performance and the literary sensibility of different ages with regards to the Shakespearean Canon.

**CO4** Identify the cultural and political positions of Shakespeare and develop her own sense of critiquing a classical text.

## **COMPLEMENTARY COURSES**

### **ENG1(2)C02 HISTORY OF ENGLISH LITERATURE – I**

#### **COURSE OUTCOME**

**CO1** Outline the origin and evolution of English Language

**CO2** Identify the various stages in the evolution of language from the early period to the romantic revival.

**CO3** Discover the various socio-political forces and contexts that influenced English language and literature at different historical contexts

**CO4** Point out the pattern of changes language has undergone at different stages.

### **ENG 4(3) C02 HISTORY OF ENGLISH LITERATURE – II**

#### **COURSE OUTCOME**

**CO1** Outline the history of English Language from the Victorian age to the present day

**CO2** Identify the various forces that worked together to form and shape modern English language

**CO3** Indicate the various socio-political forces and contexts that influenced English language and also literature

**CO4** Survey the pattern of changes language has undergone at different stages.

**CO5** Develop a historical view of English literature

### **ENG5B23 APPRECIATING DRAMA**

#### **COURSE OUTCOME**

**CO1** Establish and illustrate the basic elements of drama.

**CO2** Appreciate drama as an art form.

**CO3** Identify the different genres and masters of drama.

**CO4** Assess the theatrical performances and the texts and evaluate them critically from various standpoints.

**CO5** Explain the insights, conventions and experimentations associated with English Drama.

**CO6** Demonstrate how writers use the resources language as a creativity

**CO7** Point out the entire range of human experience through drama as a literary form.

## **ENG1(2) C01 ENGLISH FOR COMMUNICATION COURSE I (ASPECTS OF ORAL AND INTERPERSONAL COMMUNICATION)**

### **COURSE OUTCOME**

**CO1** Communicate appropriately and effectively in any social context.

**CO2** Communicate appropriately and effectively to persons and within groups.

**CO3** Demonstrate the ability to analyze a problem and devise a solution in a group.

**CO4** Capable of effectively monitoring, analyzing, and adjusting their own communication behaviour

## **ENG 4(3) C01 ENGLISH FOR COMMUNICATION COURSE II (ASPECTS OF READING AND WRITING)**

### **COURSE OUTCOME**

**CO1** Demonstrate proficiency in the use of written English, including proper spelling, grammar, and punctuation.

**CO2** Demonstrate the ability to read to analyze, reason and decipher written discourses to reach an effective conclusion.

**CO3** Demonstrate proficiency in formal and academic writing..

**CO4** Construct appropriate messages for a variety of contexts/situations.

### **OPEN COURSES**

## **ENG5D01 ENGLISH FOR COMPETITIVE EXAMINATIONS**

### **COURSE OUTCOME**

**CO1** Identify the important skills necessary for professional development

**CO2** Develop necessary linguistics skills that are relevant in English

**CO3** Appraise important aspects necessary for language development

**CO4** Recognize the importance of getting prepared for competitive exams

## **ENG5D02 CREATIVE WRITING IN ENGLISH**

### **COURSE OUTCOME**

**CO1** Identify different literary forms and genres.

**CO2** Develop the ability to appreciate poems and short stories

**CO3** Develop the logical and analytical skills required for writing professional articles – blogs, book and film reviews etc.

**CO4** Discover the ability to write short literary pieces

### **ENG5D03 APPRECIATING LITERATURE**

#### **COURSE OUTCOME**

**CO1** Identify the different aspects of the language of literature.

**CO2** Discover the features of creative texts.

**CO3** Distinguish diverse points of view in creative writing

**CO4** Determine the genres of literary works.

**CO5** Discover the function of literary texts as a reflection of life in its philosophical and social levels

### **PROJECT WORK/ RESEARCH METHODOLOGY**

#### **ENG6B21 PROJECT**

#### **COURSE OUTCOME**

**CO1** Demonstrate knowledge of and an ability to conduct research work in the several areas related to language and literature.

**CO2** identify, define and demonstrate the research problem

**CO3** Create original research projects which assess the contributions and/or complexities of a selected writer, literary movement, aspects of language etc.

**CO4** Assess, critique, evaluate a project work and construct meaningful tools for it

#### **ENG6B22 RESEARCH METHODOLOGY**

#### **COURSE OUTCOME**

**CO1** Recognize and identify the fundamentals of research.

**CO2** Demonstrate the ability to present a problem and devise a solution as part of a research work.

**CO3** Write original research papers

**CO4** Assess, critique, evaluate a research paper/work

# **BA PUBLIC ADMINISTRATION**

## **COURSE OUTCOME**

### **Semester I**

#### **PUB1 B01 PRINCIPLES OF PUBLIC ADMINISTRATION**

##### **COURSE OUTCOME**

**CO1** - Explain the basic concepts of Public Administration.

**CO2** - Evaluate different approaches in Public Administration.

**CO3** - Analyze the evolution and recent concepts of Public Administration.

**CO4** - Examine and analyze principles of organization

**CO5** - Explain and evaluate the structure of Government organisations

### **Semester II**

#### **PUB2 B01 INDIAN GOVERNMENT AND POLITICS**

##### **COURSE OUTCOME**

**CO1** - Examine the Constitutional history of India .

**CO2** - Analyze and evaluate the salient features of Indian Constitution.

**CO3** - Examine and analyze the different aspects of Indian Federalism

**CO4** - Describe the structure of Governance at Union and State level.

**CO5** - Analyze and evaluate the Judicial System in India.

### **Semester III**

#### **PUB3 B01 ADMINISTRATIVE THOUGHT COURSE**

##### **COURSE OUTCOME**

**CO1** - Explain and evaluate the contribution of Classical Thinkers of Administration

**CO2** - Examine the ideas and Concepts of Bureaucratic thinkers in Public Administration

**CO3** - Analyses the Human Relations theories of Public administration

**CO4** - Interpret the ideas of Behavioural thinkers of Public Administration.

**CO5** - Assess the contributions of given motivation thinkers.

### **PUB3 B02 DECENTRALIZATION AND LOCAL SELF GOVERNMENT**

#### **COURSE OUTCOME**

**CO1** - Explain the nature and scope of Local Government and understand the committees on Panchayath raj in India

**CO2** - Examine and analyze different forms of Rural Local Government

**CO3** - Examine and analyse the different types of Urban Local Government

**CO4** - Compare and evaluate the structure of Local government in given countries

**CO5** - Explain and evaluate major issues in local Government.

#### **Semester IV**

### **PUB4 B01 INDIAN ADMINISTRATION**

#### **COURSE OUTCOME**

**CO1** - Examine the evolution of Indian Administration

**CO2** - Evaluate administration at the Union and State Level

**CO3** - Analyse and evaluate aspects of Civil Service in India

**CO4** - Explain and appraise the major institutions in Indian Administration

**CO5** - Examine and assess the issues and challenges in Indian Administration

### **PUB4 B02 MAJOR ADMINISTRATIVE SYSTEMS**

#### **COURSE OUTCOMES**

**CO1** - Define various types of constitution and forms of Governments.

**CO2** - Examine and evaluate the salient features of British Administrative system .

**CO3** - Examine and evaluate the salient features of US Administrative system .

**CO4** - Examine and evaluate the salient features of French Administrative system .

**CO5** - Examine and evaluate the salient features of Swiss Administrative system.

## **SEMESTER V**

### **PUB5 B01 RESEARCH METHODOLOGY**

#### **COURSE OUTCOMES**

**CO1** - Examine the basic concepts in Research Methodology

**CO2** - Classify and categorize different types of research

**CO3** - Identify and analyze concepts and variables in research

**CO4** - Distinguish and choose the types of research design

**CO5** - Analyze and assess the sampling methods and Data collection technique

**CO6** - Develop report writing skills

### **PUB 5 B02 PUBLIC FINANCIAL ADMINISTRATION**

#### **COURSE OUTCOMES**

**CO1** - Explain the Scope, nature, role & evolution of public financial administration

**CO2** - Examine and illustrate budget as an instrument of economic development

**CO3** - Analyze the budgetary procedure, accounting and auditing in India

**CO4** - Examine and evaluate the legislative control over the finance.

**CO5** - Assess and appraise tax administration in India

**CO6** - Analyze and evaluate the Economic policies and the aspects of Fiscal federalism in India.

## **PUB5 B03 PUBLIC PERSONNEL ADMINISTRATION**

### **COURSE OUTCOMES**

**CO1** - Describe and introduce Public Personnel Administration

**CO2** - Explain and classify various types of personnel system

**CO3** - Examine the recruitment and training procedures of public personnel

**CO4** - Assess the methods and mechanisms of promotion and performance appraisal of public personnel .

**CO5** - Analyse and evaluate the aspects and issues of Public Personnel

**CO6** - Discuss the retirement, discipline, conduct, morale etc of public personnel.

## **PUB5 B04 EMERGING TRENDS IN PUBLIC ADMINISTRATION**

### **COURSE OUTCOMES**

**CO1** - Explain the new trends and concepts of Public Administration

**CO2** -Examine and explain the Emerging models and Techniques of administrative improvement

**CO3** - Analyse and evaluate the concept of Governance

**CO4** - Examine and evaluate various measures of transparency and accountability in administration

**CO5** - Compare and appraise the changing role of various stakeholders in administration.

## **SEMESTER VI**

### **PUB6 B01 PUBLIC POLICY ANALYSIS**

#### **COURSE OUTCOMES**

**CO1** - Perceive and examine the concept and theories of Public Policy

**CO2** - Explain and evaluate the process of Public Policy making and the role of different stake holders in it.

**CO3** - Illustrate and assess different aspects of Implementation of Public policy.

**CO4** - Evaluate and analyse the concepts and approaches of Policy Monitoring

**CO5** - Examine and appraise the Process, Criteria and Techniques of Policy Evaluation

### **PUB6 B02 HUMAN RESOURCE MANAGEMENT**

#### **COURSE OUTCOMES**

**CO1** - Describe and analyze the fundamentals of Human Resource Management

**CO2** - Explain and evaluate human resource planning.

**CO3** - Analyze recruitment and training in Human Resource Management

**CO4** - Examine different aspects and control measures in Human Resource management.

**CO5** - Assess the important aspects of industrial relations.

### **PUB6 B03 DEVELOPMENT ADMINISTRATION**

#### **COURSE OUTCOMES**

**CO1** - Examine the different aspects of development administration

**CO2** - Assess the different models and approaches of development administration

**CO3** - Analyze the concept, mechanism and process of development planning

**CO4** - Examine and analyse role of bureaucracy in development administration

**CO5** - Describe and appraise the system of district administration in India

**CO6** - Evaluate the socio-economic development programmes in rural and urban areas

#### **PUB6 B04 COMPARATIVE PUBLIC ADMINISTRATION**

##### **COURSE OUTCOMES**

**CO1** – Explain the basic aspects of Comparative Public Administration

**CO2** – Analyse and evaluate various Approaches to Comparative Public Administration

**CO3** – Compare and analyse the administrative systems of given countries

**CO4**- Compare and evaluate the personnel administration system of given countries

**CO5**- Compare and appraise the control mechanisms of given countries.

##### **OPEN COURSE**

#### **PUB5 D01 INDIAN ADMINISTRATION**

##### **COURSE OUTCOMES**

**CO1** - Examine the administration and its institutions at Union level

**CO2** - Examine the administration and its institutions at State level

**CO3** - Explain and evaluate constitutional and structural mechanisms of Civil Service in India.

**CO4** - Analyze and appraise various institutions in Indian Administration.

## **PUB5 DO2 HUMAN RESOURCE MANAGEMENT**

### **COURSE OUTCOMES**

**CO1** - Describe and analyze the fundamentals of Human Resource Management

**CO2** - Explain and evaluate human resource planning.

**CO3** - Analyze recruitment and training in Human Resource Management

**CO4** - Examine different aspects and control measures in Human Resource management.

## **PUB5 D03 DECENTRALIZATION AND LOCAL SELF GOVERNMENT**

### **COURSE OUTCOMES**

**CO1** - Explain nature and scope of Local Government and understand the committees on

Panchayath raj in India

**CO2** - Examine and analyze different forms of Rural Local Government

**CO3** - Examine and analyse the different types of Urban Local Government

**CO4** - Compare and evaluate the structure of Local government in given countries

### **ELECTIVE COURSES**

## **PUB6 B05 HUMAN RIGHTS**

### **COURSE OUTCOMES**

**CO1** - Analyze the importance and various approaches to the study of human rights

**CO2** - Examine and evaluate the role of UNO in human rights protection.

**CO3** - Evaluate and appraise various provisions for human rights protection in India

**CO4** - Examine and evaluate the role of various institutions in protecting human rights

**CO5** - Evaluate and appraise the role various human rights organizations in human rights protection

**CO6** - Analyze the various challenges to Human rights protection.

## **PUB6 B06 INTERNATIONAL ORGANIZATIONS & ADMINISTRATION**

### **COURSE OUTCOMES**

**CO1** - Examine the evolution of International Organizations and an introduction to League of Nations

**CO2** - Explain and analyse the structure and functions of United Nations Organization

**CO3** - Analyse & evaluate Peacekeeping, collective security and Disarmament efforts under UNO

**CO4** - Describe and evaluate the New International Economic Order and Issue areas of UNO

## **PUB6 B07 POLICE ADMINISTRATION**

### **COURSE OUTCOMES**

**CO1** - Describe and analyze the concepts, approaches and importance of Police Administration

**CO2** - Evaluate the system of Police Administration in India with an evolutionary perspective

**CO3** - Analyse & evaluate objectives and functions of Police in society

**CO4** - Examine the structure and functions of police at State Level

**CO5** - Examine the structure and functions various police organizations

**CO6** - Examine and evaluate issue areas in Police Administration

**CO7** - Assess the importance of women police and the recruitment and training of various police personnel.

### **PROJECT WORK**

### **COURSE OUTCOMES**

**CO1** - Develop a meaningful research problem

**CO2** - Design and develop appropriate methodology and research design

**CO3** - Apply appropriate research methods

**CO4** - Choose and adopt suitable data collection methods

**CO5** - Analyse and interpret the collected data

**CO6** - Conclude and defend the results of the study

### **COMPLEMENTARY COURSE**

#### **PUB1(2)C01- INDIAN ADMINISTRATION**

### **COURSE OUTCOMES**

**CO1**- Examine the evolution of Indian Administration

**CO2**- Evaluate the administration at the Union Level

**CO3**- Evaluate the administration at the State Level

**CO4**- Evaluate the administration at the District Level

**CO5**- Explain and evaluate constitutional and structural mechanisms of Civil Service in India.

## **PUB3(4)C02-DEVELOPMENT ADMINISTRATION**

### **COURSE OUTCOMES**

**CO1** - Describe and examine the basic aspects of development administration

**CO2** - Evaluate the process of Development planning at Center, State and Local Level.

**CO3** - Summarise the various dimensions of development dynamics

**CO4** - Identify and discuss the issues and new dimensions of development administration

**CO5** - Identify and evaluate the new perspectives on Development



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