SAFI

SAFI INSTITUTE OF ADVANCED STUDY (SIAS)

COURSE OUTCOMES (CO)

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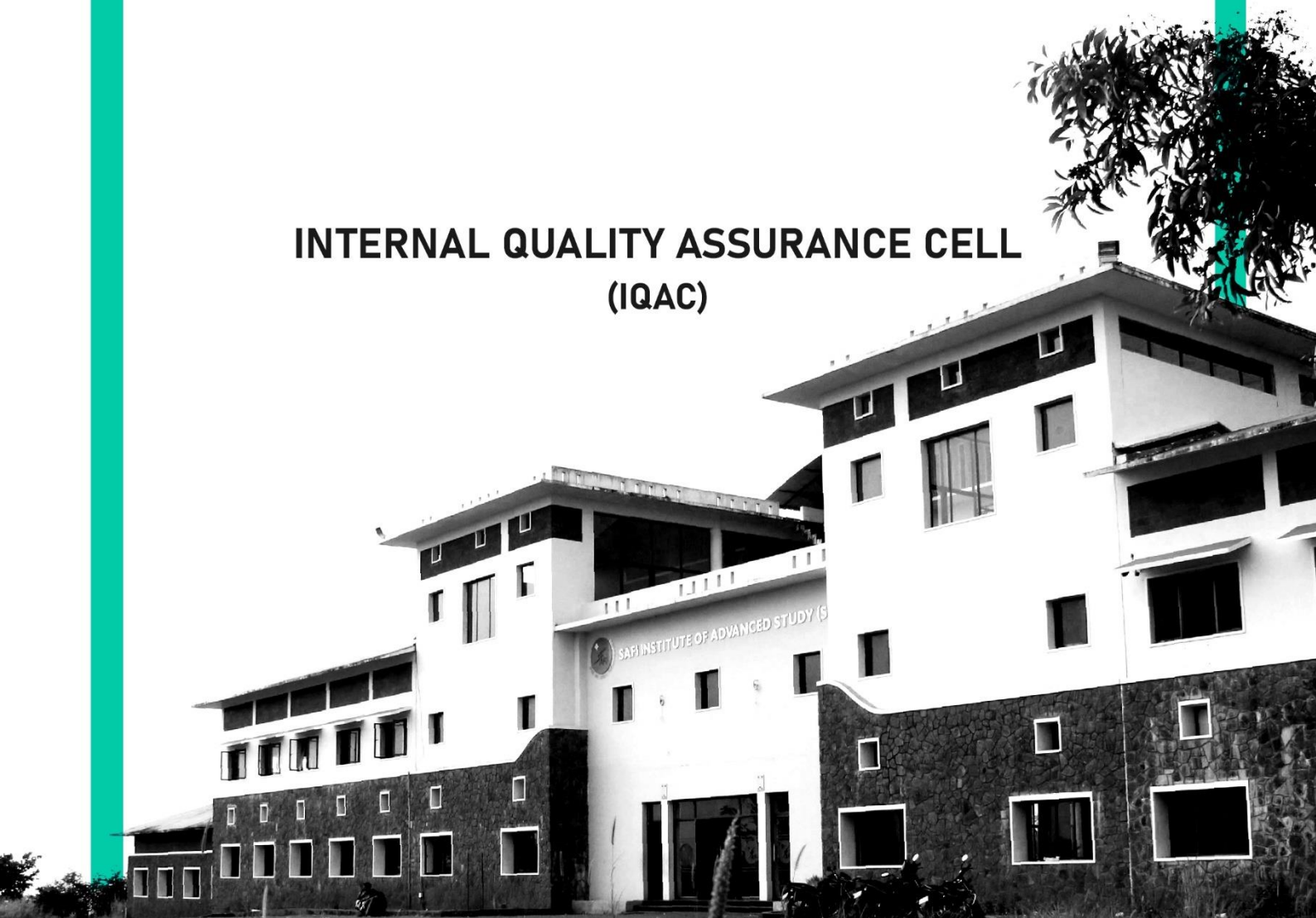

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M. Sc. FOOD SCIENCE AND TECHNOLOGY

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.

C010 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 seperation 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 SO2 and benzoic acid.

C011 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 rheolofical.

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.

C011 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.

C010 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.

C011 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 CO 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 Mandel 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 Discus 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 Mannual 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 Preform 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 MANAGEMANT 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 SWOC.

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 valuate 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 the 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 andRelevance

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.

C03 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 lifeff

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

C01 Understand the features of non-inertial systems and fictitious forces

CO2 Understand and analyze the features of central forces with respect to planetary forces

C03 Understand the basic ideas of Harmonic Oscillations

C04 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 polarizationof 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 theirinstrumentation

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 MEASUREMENTAND 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 PSYCHOLOGYPRACTICAL 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 andsocial 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 Idenify the psychosocial issues related to terminal illness and its management

EXPERIMENTAL PSYCHOLOGYPRACTICAL 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 PSYCHOLOGYPRACTICAL 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 descision making skill of an individual

OPEN COURSE

PSY5D01 PSYCHOLOGY ANDPERSONAL 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

ORGANIZATIONALBEHAVIOUR

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 OFCRIMINAL 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 elaborative 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 PSYCHOLOGYPRACTICAL 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 PSYCHOLOGYPRACTICAL 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.

CO4 Describe methods to determine cell cytotoxicity which in turn can be used to validate drugs and cosmetics for their side effects (toxicity).

CO5 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

EMESTER 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.

BBA3BO4 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 ratos.

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,

BBA3CO2 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 xamine 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

BBA5 B11(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 FINANCIALACCOUNTING

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.

BCM3BO3 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.

BCM4BO6: 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 Tukaful.

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 acquitted 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 anlyse 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 i ts 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 anlyse 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 the market.

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 initiates 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 FINANCIALSYSTEM

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 basics 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 then 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 anlyse 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 marginalize 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 THE MEDIA

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 COMMUNICATIONCOURSE 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 ISLAMIC FINANCE WITH COMPUTER APPLICATION

COURSE OUTCOME

Semester I

IFC1 B01 MANAGEMENT CONCEPTS AND BUSINESS ETHICS

COURSE OUTCOME

CO1 understand the scope and principles of management

CO2 understand the process and functions of management

CO3 differentiate manager and leader and understand how to manage group processes.

CO4 interpret the role of culture in organisations and familiarise with current management practices.

CO5 understand the importance of ethics and values in business management.

Semester II

IFC2 B02 FUNDAMENTALS OF ISLAMIC ECONOMICS

COURSE OUTCOME

CO1 understand key concepts and ideas within the field of Islamic economics and how they related to economic theory and practice.

CO2 develop critical understanding of principles of Islamic Economics.

CO3 discuss the theories of economics from Islamic point of view.

CO4 build an idea about institutional setting of Islamic economic system.

CO5 summarise the Islamic perspective regarding market and pricing

Semester III

IFC3 B03 INTRODUCTION TO COMPUTERS, OFFICE AUTOMATION & INTERNET

COURSE OUTCOME

CO1 understand basics of computes and organize and work with files and folders.

CO2 make use of word processor to handle a text document to prepare a report or resume.

CO3 organize, categorize and analyse data and do calculations and comparisons.

CO4 create slideshows and convey information rich in multimedia.

CO5 utilise internet resources for banking, educational, shopping and many other purposes.

IFC3 B04 BASICS OF ISLAMIC FINANCE

COURSE OUTCOME

CO1 understand basic concepts and principles of Islamic Finance.

CO2 interpret the contractual principles used in all Islamic finance agreements.

CO3 understand the nature and scope of Islamic banking and its relationship with conventional banking.

CO4 identify the range of Islamic financial instruments available for investors and corporations

CO5 understand origin, history and key features of Islamic Takaful industry and apply knowledge of different Takaful products in life.

CO6 understand about the Islamic Microfinance system, prevailing Islamic financial products, standards and practices underpinning institutions of Islamic Microfinance.

Semester IV

IFC4 B05 ISLAMIC BANKING THEORY AND PRACTICE

COURSE OUTCOME

CO1 summarize about the history and evolution of Islamic banking.

CO2 explain the rationale for the prohibition of interest (Riba) and its consequences for savings and investments

CO3 compare Islamic banking with conventional banking

CO4 identify different equity based products and assesses the relative advantages and disadvantages of each

CO5 compare various debt based financial products of Islamic banks.

IFC4 B06 QUANTITATIVE TOOLS FOR FINANCIAL ANALYSIS

COURSE OUTCOME

CO1 define statistics and represent data graphically.

CO2 compare different methods of measuring averages, deviations from averages and interpret the results.

CO3 interpret the degree of relation between economic and financial variables.

CO4 understand the concept and purpose of Index Numbers.

Semester V

IFC5 B07 FINANCIAL SYSTEM

COURSE OUTCOME

CO1 define the functions of financial system and decribe financial markets and financial assets.

CO2 to describe money market and compare the various money maket instruments

CO3 analyze the capital market institutions and instruments of capital market.

CO4 understand the role of development finance institutions in the economy.

CO5 summarise about the various regulatory institutions and their role in the financial system.

IFC5 B08 COMPUTERISED ACCOUNTING WITH TALLY

COURSE OUTCOME

CO1 understand basics of accounting, both manual and computerised.

CO2 apply the software Tally for inventory management in various stock categories.

CO3 integrate accounting with inventory management for bill and invoice generation, bank reconciliation, stock valuation and interest calculation etc.

CO4 learn the application of tax using Tally.

CO5 generate various accounting and inventory reports using Tally software.

CO6 utilizevarious technological advantage of Tally for exporting and importing data and ODBC interface.

CO7 recall the objectives and basic assumptions of Islamic Accounting norms.

IFC5 B09 FUNDAMENTALS OF ACCOUNTING

COURSE OUTCOME

CO1 explain the fundamentals of accounting including the meaning, definition and needs of accounting business decisions.

CO2 prepare the basic accounting records like trial balance, P&L statement and balance sheet and other financial statements.

CO3 study various ratios related to financial statement analysis.

CO4 define the accounting standards of Islamic Financial Institutions as well as to show the prescribed general layout of the balance sheet in Islamic banks.

CO5 compare and contrast AAOIFI Norms for accounting of various Islamic financial products.

IFC5 B10 PUBLIC FINANCE IN ISLAM

COURSE OUTCOME

CO1 relate the nature, definition, role and scope of public finance in economic development.

CO2 explain the importance of public finance in Islam.

CO3 illustrate sources of revenue in an Islamic State.

CO4 classify eight categories of poor people and the need for zakah funds.

CO5 compare and contrast public choice and its relationship to public fiscal decision making in an Islamic State

Semester VI

IFC6 B11 CORPORATE GOVERNANCE IN ISLAMIC FINANCE

COURSE OUTCOME

CO1 learn the concepts, scope and significance of corporate governance.

CO2 explain International Corporate Governance Guidelines and their applicability to Islamic Banks.

CO3 illustrate roles and responsibilities of Shariah Supervisory Board.

CO4 compare conventional banking regulation with banking regulation and supervisions in an Islamic framework.

IFC6 B12 ISLAMIC ECONOMIC THOUGHT

COURSE OUTCOME

CO1 outline the history of Islamic Economics.

CO2 describe various economic institutions during the time of Prophet and other Khalifs.

CO3 illustrate the development of economic institutions after the reign of Khalifs.

CO4 explain the contributions of various Islamic Scholars in economic thought.

CO5 narrate the development of Islamic economics in modern era.

IFC6 B13 ISLAMIC INSURANCE (TAKAFUL)

COURSE OUTCOME

CO1 summarize the origin and nature of Islamic Insurance.

CO2 describe types of Takafuls given in Islam.

CO3 illustrate the different models in Takaful.

CO4 explain the underwriting and management of Islamic Insurance.

CO5 narrate the operation and funding of Reinsurance in Islam (Retakaful).

IFC6 B14 - ISLAMIC BONDS (SUKUK)

COURSE OUTCOME

CO1 compare Conventional and Islamic Security Markets and its functioning.

CO2 define Islamic bonds (Sukuks) and compare it with conventional bonds.

CO3 describe various types of Sukuks.

CO4 identify the Islamic laws concerning the sale and purchase of Sukuks.

ELECTIVE COURSES

IFC6 B16 FINANCIAL MANAGEMENT

COURSE OUTCOME

CO1 understand the overall role and importance of the financial management

CO2 evaluate the importance of effective working capital management and its role in achieving firm's objectives.

CO3 identify various methods of capital budgeting to take right capital investment decision.

CO4 analyse cost of capital and explain theories of capital structure.

CO5 summarize decision-making mechanism of the management to declare dividends and contemporary issues in management.

IFC6 B17 ENVIRONMENTAL ECONOMICS

COURSE OUTCOME

CO1 understand the discipline of environmental economics, including its key principles and methods.

CO2 various types of pollution and methods to control pollution.

CO3 define and describe sustainable development.

CO4 build a solid base of knowledge environment problems.

IFC6 B18 ISLAMIC ASSET AND FUND MANAGEMENT

COURSE OUTCOME

CO1 understand the overall role and importance of the Islamic financial market

CO2 evaluate the Islamic equity market and capital market instruments

CO3 make critical assessment of Islamic screening Norms

CO4 analyse Islamic Real Estate and Project financing

OPEN COURSES

IFC5 D02 FUNDAMENTALS OF ACCOUNTING IN ISLAMIC FINANCE

COURSE OUTCOME

CO1 understand fundamentals of Islamic accounting.

CO2 list the important accounting standards issued by AAOIFI.

CO3 generate financial reporting in Islamic financial institutions.

CO4 illustrate Murabahah and Ijarah Financing and Accounting .

CO5 construct accounting for securities financing in Islam.

IFC5 D03 ISLAMIOC ECONOMIC SYSTEM

COURSE OUTCOME

CO1 explain the features of Islamic economic system.

CO2 list out various objectives of Islamic economic system.

CO3 narrate the principles of Islamic economic system.

CO4 compare Capitalism with Islamic economic system.

CO5 compare Socialism with Islamic economic system.