OUTCOMES PROPOSED BY THE DEPARTMENTS

Based on (6 Points-Bloom's Taxonomy)

English Department

Programme outcomes

PO1. Equip women learners with tools of communication skills for excellence in careers and higher education.

PO2. Foster a spirit of enthusiasm in learning communication English for different contexts and purposes.

PO3.Enable students to develop confidence in using the English language to speak with clarity, write effectively, record and reflect on issues pertaining to the contemporary world.

PO4 Oriented towards value based education.

PO5. Equipped with job skills through inculcating mastery in job application skills.

PO6 Familiarize students to use multimedia in the English language lab in learning communicative English skills.

PO7. Enable reviews of literary pieces

General English

Programme specific outcomes

PSO1 Enable students to develop confidence in using the English language record and reflect on issues pertaining to the contemporary world.

PSO2 Oriented towards value based education through parables and real life stories.

PSO3. Inculcating mastery in job application skills.

PSO4 Familiarize students to use multimedia in the English language lab in learning communicative English skills.

PSO5 Faster perfection in language through grammatical structures.

SEMESTER I AND II

Course Outcomes:

The Expected learning outcomes of the general English the students are expected course is that to demonstrate the following:

- Develop comprehension of simple prose, poetry texts.
- Develop the content of stories, anecdotes, prose & poetry pieces.
- Analyse real life situations related to texts prescribed and be able to communicate in oral written format with clarity.

- Gain a thorough knowledge of English speech sounds and be able to articulate them.
- Able to gain competence in the conversations, style, language in different forms of correspondence formal and informal.
- Introduce students to dialogue writing, preparation of role- plays and basic grammar.

SEMESTER III

Course outcome:

- Faster communication skills in students in formal and informal registers
- Enhance reading skills in students to introduce reading of text and comprehension
- Introduce students to women related issues and promote short oral and written presentations and debates
- Enable students to fill forms with accurency
- Introduced students to communicate online (css lab)
- Enable expansion of vocabulary instruments through idiomatic expression

ADVANCED ENGLISH:

SEMESTER-I

Programme Specific Outcomes

PSO1 Introduce students to the History of British Poetry and types of prose writing.

PSO2 Orient students to history of British drama & different elements of drama.

PSO3 Introduce students to the American English literature.

PSO4 Introduce students to Indian English literature relating to Indian English drama and novel.

PSO5 Orient students about communication skills for the orientation.

INTRODUCTION TO LITERATURE

Course outcomes:

- Understand difference between genres of writing prose and short stories.
- Introduced types of prose writing, narrative, descriptive and reflective.
- Understand about plot, character, and dialogue, short stories and attempt to create plots and stories.
- Able to review short stories and poetry.
- Able to write short poems on their own.

SEMESTER-II

Course outcomes:

- Introduce students to different forms of poetry.
- Orient students about character, dialogue and plot in plays.
- Orientation on English language and its gradual development.

SEMESTER-III

Course outcomes:

- learn about the history of British drama and different elements of drama.
- train students in creative writing, poetry and short skits dramatization.
- train students in history of British prose and novel.

SEMESTER-IV

Course outcome:

Enable students to write creative poems and short skits dramatization.

Train students in history of British prose and novel.

PAPER-V: INDIAN ENGLISH LITERATURE

Course outcome

- Orient students about the prose writers of Indian English literature.
- Enable students to develop creative writing in different prose style.
- Introduce students to genres of Indian English writing such as poetry and prose.

PAPER-VI: AMERICAN ENGLISH LITERATURE

Course Outcome

- Orient students about the American English prose writers.
- Introduce students to American English writers of drama.
- Enable students about creative writing.

PAPER- VII: INDIAN ENGLISH LITERATURE (DRAMA&NOVEL)

Course Outcome

- Orient students about the poets of American English literature.
- Introduce students to the novelists of American English literature.
- Enable them about creative writing of unseen poem/novel/passage.

BBA – SEMESTER- I

Program specific outcome:

Orient students about communication skills for job orientation.

students acquire professional English and soft skill.

COMMUNICATION SKILLS – I

Course outcome:

- Enable students about vocabulary building
- Introduce basics of grammar to students.
- Orient students with features of business correspondence.
- Enable students to write resumes for interviews.

BBA – SEMESTER-II

COMMUNICATION SKILLS – II

Course outcome:

- Enable students about business communication skills.
- Orient students about reading skills and spoken skills.
- Introduce LSRW skills to students for better communication skills.
- Understand dyadic communication.

II BBA – PROFESSIONAL ENGLISH & SOFT SKILLS – I

Course outcome:

- Urient students about body language.
- Develop interpersonal relationships, team work among students.

  Students trained about time management.

- Enable students about basic writing skills and speaking skills.
- Orient students to business correspondence and resume writing.

II BBA – PROFESSIONAL ENGLISH AND SOFT SKILLS - II

Course outcome:

Orient students about soft skills.

Enable students about writing skills and speaking skills and phonetics.

Each students about information transfer and building vocabulary.

I BVOC – COMMUNICATION SKILLS IN ENGLISH – I

Course Outcomes

- Enable students about communication.
- Orient students about remedial grammar.
- Students are oriented towards reading skills, speaking skills and writing skills.

I BVOC – COMMUNICATION SKILLS IN ENGLISH – II

Course outcomes:

- Enable students about communication
- Orient students about remedial grammar.
- Introduce students about reading skills, speaking and writing skills.

II BVOC – COMMUNICATION SKILLS – I

Course outcomes:

- Exhibit presentation skills.
- learn about body language.
- Oriented about team dynamics.
- Students acquire Knowledge on group discussion and interview skills.

Department of Botany

Programme outcomes (Botany)

Students will

The student will be able to identify major groups of plants and compare the characteristics of lower (e.g. algae and fungi) and higher (angiosperms and gymnosperms) plants.

1. Able to use the evidence based comparative botany approach to explain the evolution of organism and understand the genetic diversity on the earth.
2. The students will be able to explain various plant processes and functions, metabolism, concepts of gene, genome and how organism's function is influenced at the cell, tissue and organ level.
3. Students will be able to understand adaptation, development and behavior of different forms of life.
4. The understanding of networked life on earth and tracing the energy pyramids through nutrient flow is expected from the students.
5. Students will be able to demonstrate the experimental techniques and methods of their area of specialization in Botany.

Botany Paper-1: Microbial Diversity, Algae & Fungi

Course outcome

On completion of this course, the students will be able to

1. Use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth.
2. Understand the diversity of Micro organisms, Algae & Fungi.
3. Understand the systematic, morphology, structure of Algae, life cycle pattern of Algae & Fungi.
4. Students will be able to compare and contrast the characteristics of Microorganisms, algae, and fungi that differentiate them from each other and from other forms of life.
5. Develop critical understanding of plant diseases and their remediation.
6. Increase the awareness and appreciation of human friendly viruses, bacteria, algae and their economic importance.

Botany Paper-2: Diversity of Archaegoniate and Plant Anatomy

Course outcome

On completion of the course, students are able to:

1. Understand the morphological diversity of Bryophytes and Pteridophytes and Gymnosperms.
2. Understand the economic importance of the Bryophytes and Pteridophytes and Gymnosperms.

3. Know the evolution of Bryophytes and Pteridophytes and Gymnosperms.
4. Understanding of plant evolution and their transition to land habitat.
5. Demonstrate proficiency in the experimental techniques and methods of appropriate analysis of Bryophytes, Pteridophytes, Gymnosperms.
6. Examine the internal anatomy of plant systems and organs.
7. Develop critical understanding on the evolution of concept of organization of shoot and root apex.
8. Examine the internal anatomy of plant systems and organs.
9. Analyze the composition of different parts of plants and their relationships

Botany Paper-3: Plant Taxonomy and Embryology

Course outcome

1. Develop a basic knowledge of taxonomic diversity and important families of useful plants.
2. Increase the awareness and appreciation of plants & plant products encountered in everyday life.
3. Classify Plant systematics and recognize the importance of herbarium and Virtual herbarium.
4. Evaluate the Important herbaria and botanical gardens.
5. Critically evaluation of ideas and arguments by collection, identification about the plants, so as recognize the position of plant in the broad classification and phylogenetic level.
6. Accurately interpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in taxonomy.
7. Know the methods of pollination and fertilization.
8. Know fertilization, endosperm and embryogeny.

Botany Paper-4: Plant Physiology and Metabolism

Course outcome

1. Students will be able to demonstrate proficiency in the experimental techniques and methods of plant physiological processes and analyze the metabolic activities.
2. Understand Water relation of plants with respect to various physiological processes.
3. Differentiate anabolic and catabolic pathways of metabolism
4. Recognize the importance of Carbon assimilation in photorespiration
5. Explain the ATP-Synthesis
6. Interpret the Biological nitrogen fixation in metabolism
7. Interpret the Biological nitrogen fixation in metabolism
8. Separation of chlorophyll pigments by paper chromatography.

Botany Paper-5: Cell Biology and Genetics

Course outcome

1. Students will be able to acquire knowledge about the cell, cell cycle, mitotic and meiotic cell division.
2. Identify the concept that explains chemical composition and structure of cell wall and membrane, Process of membrane transport and membrane models.
3. Gain knowledge about “Cell Science” and molecular biology.
4. Mendelian and Neo-mendelian genetics
5. To study the phenomenon of dominance, laws of segregation, independent assortment of genes.
6. Have conceptual understanding of laws of inheritance, genetic basis of loci and alleles and their linkage.
7. Develop critical understanding of chemical basis of genes and their interactions at population and evolutionary levels.
8. Analyze the effect of mutations on gene functions and dosage.
9. Examine the structure, function and replication of DNA.
10. To understand the different types of genetic interaction, incomplete dominance, codominance, inter allelic genetic interactions, multiple alleles and quantitative inheritance etc.

Course outcome

Botany Paper-6: Medicinal Botany and Plant Ecology

1. Become aware of applications of different plants in various pharmaceutical and ayurvedic industries.
2. Conceptualize the role of plants in human welfare with special reference to India.
3. Recognize the basic medicinal plants.
4. Apply techniques of conservation and propagation of medicinal plants.
5. Understand core concepts of biotic and abiotic components.
6. Examine the structure and functions of eco-system.
7. Students will be able to explain the ecological interconnectedness of life on earth by tracing energy and nutrient flow through the environment. They will be able to relate the physical features of the environment.

Course outcome

Botany Paper-7: Economic Botany and Plant Biotechniology

1. Understand the core concepts and fundamentals of plant biotechnology and genetic engineering
2. Develop their competency on different types of plant tissue culture
3. Analyze the enzymes and vectors for genetic manipulations
4. Examine gene cloning and evaluate different methods of gene
5. Students will be able to explain how Plants function at the level of the gene, genome, cell, tissue.

6. Appreciate the diversity of plants and the plant products in human use

Course outcome

Botany Paper-8A1: Nursery and Gardening

1. Understand the different classifications of horticultural crops, nursery management,
2. Apply the basic principles and components of gardening
3. Design various types of gardens according to the culture and art of bonsai
4. Understand the process of sowing seeds in nursery
5. Reflect upon different Landscaping practices and garden design

Botany Paper-8A2:organic Farming and Sustainable Agriculture

Course outcome

1. Students will be able to establish nurseries, organic farming practices and highlight the potential of these studies to become an entrepreneur.
2. Development of nursery for at least 5 types of trees with regular detailed notes 3. Study of pathological diseases and their control
3. Develop their understanding on the concept of bio-fertilizer
4. Identify the different forms of biofertilizers and their uses
5. Compose the Green manuring and organic fertilizers
6. Know the establishment of Organic kitchen garden.

Course Outcome

Botany Paper-8A3: Crop cultivation techniques and Economic development

1. Critically evaluate different cultivation practices of Cereals and cash crops.
2. Develop critical understanding of plant diseases and their remediation in Cereal crops and cash crops.
3. Examine the cultivation of different vegetables and growth of plants in nursery and gardening

DEPARTMENT OF ZOOLOGY

Programme, Programme Specific & Course Outcomes

Zoology Program Outcomes:

- Students gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms
- Analyse complex interactions among the various animals of different phyla, their distribution and their relationship with the environment
- Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organisms.
- Understands the complex evolutionary processes and behaviour of animals
- Correlates the physiological processes of animals and relationship of organ systems
- Gain knowledge of Agro based Small Scale industries like sericulture, fish farming, butterfly farming and vermicompost preparation.
- Understands about various concepts of genetics and its importance in human health
- Apply ethical principles and commit to professional ethics and responsibilities in delivering his duties
- Apply the knowledge and understanding of Zoology to one's own life and work
- Develops empathy and love towards the animals

Program Specific Outcomes:

- Understand the nature and basic concepts of cell biology, genetics, taxonomy, physiology, ecology and applied Zoology
- Perform procedures as per laboratory standards in the areas of Taxonomy, Physiology, Ecology, Cell biology, Genetics, Applied Zoology, Clinical science, Toxicology, Fish biology, Animal biotechnology, Immunology, Animal Husbandry, Poultry and research methodology
- Gains knowledge about research methodologies, effective communication and skills of problem solving methods
- Contributes the knowledge for Nation building.

Course Out Come:

Employability/entrepreneurship/skill development

S. No	Class	Semester	Employability/Entrepreneurship/Skill development
1	I B.Sc	I Sem Animal diversity – Nonchordates	**Paper I:** • Students are able to understand the basic anatomical and physiological activities of lower animals and practical skills through virtual labs
2		II Sem Animal diversity – Chordates	**Paper II:** • Students are able to understand the basic anatomical and physiological activities of higher animals and practical skills through virtual labs
3	II B.Sc	III Sem Cytology, Genetics and Evolution	**Paper III:** • Comprehensive and detailed understanding of cell structural functions • Basis of Inheritance, to design, execute, and analyze the results of genetic experimentation in animal and plant model systems, genetic technologies in industries related to biotechnology, pharmaceuticals, energy, and other fields. • Explores methods and approaches that can be used to understand evolutionary processes and reconstruct evolutionary history.
4		IV Sem Embryology, Physiology and Ecology	**Paper IV:** • Gain understanding of embryology both early and systematic through the investigation of development in both humans and animal models, new applications and techniques to study development and the emerging research • have an enhanced knowledge and appreciation of mammalian physiology, be able to perform, analyze and report on experiments and observations in physiology • Demonstrate broad-based knowledge of the fundamentals of Ecology,

			Behavior, Evolution.
5	III B.Sc	**V Sem** Animal Biotechnology	**Paper V:** • Students are able to understand principles of animal culture, media preparation, Invitro fertilization and embryo transfer technology. • To get insight in applications or recombinant DNA technology in agriculture, production of therapeutic proteins.
6		**V Sem** Animal husbandry	**Paper VI:** • Students will able to apply concepts of breeding, physiology, nutrition, herd-health, economics and management into practical and profitable animal production programs. • understand the application of modern animal production technologies and management practices • Self employable, progressive and successful career
7		**VI Sem** Immunology	**Paper VII:** • Know the cellular ontogeny and organ involvement in immunity, difference between innate and adaptive immunity • Understand the antigen presentation, the role of T cells, B cells, NK cells Know the maturation steps of T and B cells, the mechanisms involved in control of immune responses • Know how to engage with current research in immunology
8		**VI Sem** **Principles of aquaculture**	**Paper VIII A 1:** • To know the basis of technologies of Aquaculture, the principles of its importance, purpose and application. • Apply methods and techniques used in fisheries and aquaculture design and construction, their management methods and quality assurance principles. • Solve the technological challenges related to aquaculture farms; organize activities to ensure their entrepreneurship and competitiveness.
9		**VI Sem** **aquaculture management**	**Paper VIII A2:** • The students are able to acquire the knowledge of animal science with reference to the anatomy and behavior of different fisheries • Understanding the scientific terms, concepts, facts, phenomenon & their interrelationships with reference to fish farms, Aquaculture and its

			Management • Develop skills in practical work, experiments & laboratory materials, instruments. and Fish Physiology and Biostatistics for analyzing abilities to apply scientific methods, collection of scientific data, problem solving, organize science exhibitions, clubs etc.
10		**VI Sem** **Clinical Technology**	**Paper VIII 3:** • Eligible for employment in a hospital, public or private health laboratory, health care clinic, veterinary office, research lab, crime lab, or pharmaceutical lab, performing a wide variety of blood, chemical, microbiological, immunological, and other clinical laboratory tests.

Department of Nutrition & Dietetics

B.Sc (ZNC &MBN)

Programme outcome

PO1 After completion of B.Sc Nutrition Stakeholders are equipped with practicals and concepts of Diet Counseling to take care of healthy and sick persons.
PO2 They will be able to counsel patients in Hospitals and OPDS
PO3 They can work in food industries as food testers , Mangers.
PO4 They can also be placed in food processing industries in quality control division.
PO5 Internships, Trainings, fieldtrips, workshops –hands on experiences seminars will make them fit for life and job.
PO6 Create an opportunities to work in diagnostic labs, Research labs to do the qualitative and quantitative analysis
PO7 Create research skills, entrepreneurial skill, and encourage them to pursue higher studies in the field of Nutrition.

PROGRAMME SPECIFIC OUTCOMES (ZNC)

PSO1 Develop knowledge on foods and its reactions useful in saving the nutrients.
PSO2 They become good human beings to take care of elderly and other family members.

PSO3 completion of this course will be able to understand the concepts of Nutrition and will counsel the patients and People in various stages of life regarding importance of diet

PSO4 internship in hospital make them to be confident and strong in facing the real time situations.
PSO5 The experience of practicals in various fields like Food Service Institutions and visits to Food Industries will equip them with knowledge on quality concepts of food production, and create lively hood for themselves and others.
PSO6 able to create a change in their own world and the society at large to make people develop right choice of eating foods.

PROGRAMME SPECIFIC OUTCOMES (MBN)

PSO1 Develop knowledge on foods and its reactions useful in saving the nutrients.
PSO2 They become good human beings to take care of elderly and other family members.

PSO3 completion of this course will be able to understand the concepts of Nutrition and will counsel the patients and People in various stages of life regarding importance of diet

PSO4 internship in hospital make them to be confident and strong in facing the real time situations.

PSO5 Inclusion of internship at Krishivignana Kendra, Horticultural University is a special feature of this course enables them to acquire credits and make them able entrepreneurs

PSO6 they demonstrate the Knowledge on food processing, quality control and application of food laws in controlling adulteration.

PSO7 acquired knowledge on help them to fetch jobs in Hospitals in food industries , Hospitals as Dieticians as Quality control officer and Food Manager.
PSO8 Able to qualify FSS, Certification exam to be placed as quality control managers in food industries.

Course outcomes (COs)

Paper I Food science and Chemistry

Student is able to recall the available food groups and classify the foods from animal and plant sources, Application of foods and nutrients for health able to explain the chemical reaction in food and understand the reactions of foods and its application in food production and cooking methods to save nutrients.

Paper II Principles of Nutrition

Able to classify the nutrients and understand its functions, explain the sources and deficiencies.

Paper III General Nutrition

- They understand the nutrient needs of individuals in all the stages of life. Application of this knowledge to take care of women in special conditions- adolescence, pregnancy, lactation.
- Paper IV Diet Therapy

  Understand the dietary modification during disease conditions. **Application of dietetics in various diseases and also explain the role of foods in various metabolic and systemic disorders. They are able to counsel the patients with suitable diets.**

  Paper V Food service management

- Students understand the scope and needs of food industry, explain the concepts of management in food service, personnel management, design the kitchen spaces and understand the importance of hygiene in food industry.

  Paper VI Food processing and preservation

  This will enhance their knowledge in food processing and preservation of products which help them to become entrepreneurs in future. The Food Processing and Preservation paper is offered as credit transfer programme by KVK, YSR Horticulture University It also help

someone to go for startups – like mobile vending, curry points, food out lets, fast food centers etc., to create lively hood.

Paper VII Food Quality and Safety

Students understand the importance of quality in food industry, Application of testing tools, consumer protection laws applicable in production of quality products, memorise standard to use of additives in food industry, and the role of packaging material to retain the quality of food.

Paper VIII a Nutritional Biochemistry

Acquire knowledge on metabolisms of major nutrients and analyse the abnormal conditions. Memorize the normal levels of blood constituents and differentiate normal and abnormal conditions.

Paper VIII b Food Microbiology

Able to classify the microorganisms, Understand the microbial action on food and human beings, applications of useful microorganisms in food industries where production of distilleries, milk industry etc. will be able to explain the safe drinking water measures to be applied.

Paper VIII c Community Nutrition

Able to counsel community and create awareness in communities to enhance the food choosing capacity , Government and NGO schemes available like DWACRA, CARE, WHO , Nava Ratnalu etc., to help one another.

Activity Sheet

Course outcomes

Name of the Department: **Microbiology**

Name of the Course: **I BSC I SEMESTER Microbiology**

CO-**1Recall facts and basic concepts** of Microbiology Contributions of Anton von Leeuwenhoek, Edward Jenner, Louis Pasteur, Robert Koch, Ivanowsky Alexander Fleming
CO-2 **Classify and Describe** microorganisms Classification of microorganisms – Haeckel's three Kingdom concept, Whittaker's five kingdom concept, three domain concept of Carl Woese. Outline classification of bacteria as per the second edition of Bergey's Manual of Systematic Bacteriology.
CO-3 **Apply** principles of lenses ,magnification for working of Microscope Principles of

microscopy - Bright field and Electron microscopy (SEM and TEM).
CO-4 **Differentiate** different pure culture techniques dilution-plating, Streak-plate, Spread-plate, Pour-Plate and micromanipulator. Enrichment culturing, Sterilization and disinfection techniques
CO-5**Examine** microorganisms by staining techniques- Simple and Differential (Gram Staining and Spore Staining).

Name of the Course: **I BSC II SEMESTER Microbiology**

CO-**1Recall facts and basic concepts** of Microbial growth different phases of growth in batch cultures, Synchronous, continuous, biphasic growth. Factors influencing microbial growth and Growth media
CO-2 **Classify** Enzymes **and Describe** Biocatalysts- induced fit and lock and key models. Coenzymes and Cofactors. Factors affecting catalytic activity. Inhibition of enzyme activity- competitive, noncompetitive, uncompetitive and allosteric. Factors affecting catalytic activity.
CO-3 **Demonstrate** Methods for measuring microbial growth – Direct microscopy, viable count estimates, turbiodometry and biomass
CO-4 **Differentiate** Aerobic respiration and Anaerobic respiration and **Explain** the concept of Glycolysis, HMP pathway, ED pathway, TCA cycle. Electron transport, oxidative and substrate level phosphorylation. Anaerobic respiration (Nitrate). Fermentation - Alcohol and lactic acid fermentations. Outlines of oxygenic and anoxygenic photosynthesis in bacteria.
CO-5 **Apply** active transport mechanism to nutrient transport in bacteria, Nutritional requirements, forms and uptake of nutrients by cells.

Name of the Course: **II BSC III SEMESTER Microbiology**

CO-**1Recall facts and basic concepts** of DNA and RNA as genetic material Structure of prokaryotic DNA, Extra chromosomal genetic elements – Plasmids, Concept of gene – Muton, Recon and Cistron. One gene one enzyme and one gene one polypeptide hypotheses.
CO-2 **Describe** Replication of DNA – Semi conservative mechanism, enzymes involved in replication, Genetic code. Regulation of gene expression in bacteria – *lac* operon.
CO-3 **Demonstrate** Genetic recombination in bacteria – Conjugation, Transformation and Transduction
CO-4 **Differentiate** Aerobic respiration and Anaerobic respiration and **Explain** the concept of Glycolysis, HMP pathway, ED pathway, TCA cycle. Electron transport, oxidative and substrate level phosphorylation. Anaerobic respiration (Nitrate). Fermentation - Alcohol and lactic acid fermentations. Outlines of oxygenic and anoxygenic photosynthesis in bacteria.
CO-5 **Apply** the principles of library in construction of Genomic and CDNA libraries

Name of the Course: **I BSC IV SEMESTER Microbiology**

CO-**1Recall facts and basic concepts** of immunity – innate and acquired; active and passive; humoral and cell-mediated immunity
CO-2 **Classify** Lymphocytes - B and T lymphocytes, null cells, monocytes, macrophages, neutrophils, basophils and eosinophils. **and Describe** Primary and secondary organs of immune system – thymus, bursa fabricus, bone marrow, spleen and lymph nodes.
CO-3 **Demonstrate** antigen-antibody reactions - Agglutinations, Precipitation, Neutralization, complement fixation, blood groups. Labeled antibody based techniques – ELISA, RIA and Immuno fluroscence.
CO-4 **Differentiate** Antibacterial Agents- Penicillin, Streptomycin. Antifungal agents – Amphotericin B

Antiviral substances - Amantadine
CO-5 **Apply** principles of diagnostic microbiology in study of microbial diseases – causal organism, pathogenesis, epidemiology, diagnosis, prevention and control Bacterial diseases – Tuberculosis and Typhoid Fungal diseases – Candidiasis. Protozoal diseases – Malaria.

Name of the Course: **III BSC V SEMESTER Microbiology**

CO-**1Recall facts and basic concepts** Physical and chemical characteristics of soil. Rhizosphere and Phyllosphere. Plant growth promoting microorganisms- mycorrhizae, rhizobia, Azospirillium, Azotobacter, cyanobacteria, and phosphate solubilizing microorganisms. Outlines of biological nitrogen fixation (Symbiotic, Non-symbiotic).
CO-2 **Classify** Plant diseases caused by fungi (ground nut rust), bacteria (angular leaf spot cotton) and Viruses (tomato leaf curl). **and Describe** Symptoms of plant diseases caused by fungi, bacteria and viruses. Principles of plant diseases control.
CO-3 **Demonstrate** Microorganisms of environment (soil, air, water). Role of microorganisms in nutrient cycling (carbon, nitrogen, sulphur). Microbial interactions-mutualism, commensalism, antagonism, competition, parasitism, predation.
CO-4 **Differentiate** Sewage treatment (primary, secondary and tertiary). Sanitation of potable water - *E.coli* and *Streptococcus faecalis* as indicators of water pollution.
CO-5 **Apply** Outlines of biodegradation of environmental pollutants-pesticides and detergents. Microbiology of air and air sampling methods.

Name of the Course: **III BSC V SEMESTER Microbiology**

CO-**1Recall facts and basic concepts** Microorganisms of food spoilage and their sources. Spoilage of different food materials-fruits, vegetables, meat and canned foods.
CO-2 **Classify** Food intoxication (botulism and staphylococci poisoning). Food borne diseases (salmonellosis and shigellosis) and their detection. Biochemical activities of microbes in milk.
CO-3 **Demonstrate** Biochemical activities of microbes in milk. Industrial production of alcohols (ethyl alcohol), Beverages (beer). Enzymes (amylases), antibiotics (penicillin), organic acid (citric acid), biofuels (biogas-methane).
CO-4 **Differentiate** Types of fermentation - aerobic, anaerobic, batch, continuous, submerged, surface, solid state. Microorganism of industrial importance- yeast, moulds, bacteria, actinomycetes. Screening and isolation of industrially important microorganisms.Outlines of strain improvement.
CO-5 **Apply** Microbiological production of fermented foods-bread, cheese. Microorganisms as food- SCP, Mushrooms (white button, oyster, paddy straw). Concept of probiotics.

Name of the Course: **III BSC VI SEMESTER Microbiology**

VIII A1

CO-**1Recall facts and basic concepts** General account of the microbes used as biofertilizers
CO-2 **Classify** Free living *Azospirillum*, *Azotobacter* and Symbiotic N_2 fixers: *Rhizobium* **and Describe** Their isolation, characteristics, mass inoculum production and field application.Importance of mycorrizal inoculum, types of mycorrhizae and associated plants, Mass inoculum production of VAM, field applications of Ectomycorrhizae and

VAM.
CO-3 **Demonstrate** Symbiotic N_2 fixers: *Rhizobium* - Isolation, characteristics, types, inoculum production and field application, legume/pulses plants *Frankia* from non-legumes and characterization. Cyanobacteria from *Azolla*, characterization, mass multiplication, Role in rice cultivation, Crop response, field application.
CO-4 **Differentiate** General account of the microbes used as biofertilizers for various crop plants and their advantages over chemical fertilizers.
CO-5 **Apply** General account of microbes used as bioinsecticides and their advantages over synthetic pesticides. *Bacillus thuringiensis* - production, Field applications. Viruses – NPV cultivation and field applications.

Name of the Course: **III BSC VI SEMESTER Microbiology**

VIII A3

CO-2 **Classify** Button, straw & Oyster MUSHROOMS **and Describe** General morphology, distinguishing characteristics, spore germination and life cycle -Agaricus,volvariella.
CO-3 **Demonstrate** the Conditions for tropical and temperate countries, isolation, spawn production, growth media, spawn running and harvesting of mushrooms.
CO-4 **Differentiate** Button, straw & Oyster mushrooms and their Collection of raw materials, materials, compost & composting, spawn & spawning, casing & case run, croping & crop management, picking & packing.
CO-5 **Apply** the uses of mushroom's medicinal and nutritional value of mushrooms,composting:importance in waste recycling, Health benefits,Antiviral value, antibacterial effect, antifungal effect, anti-tumour effect, haematological value cardiovascular &renal effect, in therapeutic diets, adolescence, for aged persons & diabetes mellitus.

Name of the Course: **III BSC VI SEMESTER Microbiology**

CO-**1Recall facts and basic concepts** Bacterial *E.Coli*, *StaphyloCoccus*, *Streptococcus*, Viral- *Influenza*, Fungal - *Dermatophyta* and Protozoan- *Amoebiasis*, Filariasis Diseases of various human body systems, Disease associated clinical samples for diagnosis.
CO-2 **Classify** clinical samples (oral cavity, throat, Skin, Blood, CSF, urine and Faeces) **and Describe** precautions required. Method of transport of clinical samples to laboratory and storage.
CO-3 **Demonstrate** Examination of sample bt staining-Gram StainZiehl-Nelson staining for tuberculosis, QBC technique - Malaria Preparation and use of culture media-Blood Agar, Chocolate Agar, Lowenstein-jensen medium, MacConkey Agar, Distinct colony properties of various bacterial pathogens
CO-4 **Differentiate** Serological Methods -Agglutination, ELISA, immunofluorescence, Nucleic acid based methods-PCR, Nucleic acid Probes
CO-5 **Apply** Importance, determination of resistance/Sensitivity of bacteria using disc diffusion method, Determination of minimal inhibitory concentration(MIC) of an antibiotic by serial double dilution method

Department of Bio - Chemistry Programme Outcomes:

Disciplinary Knowledge:

1. PO-1 Ability to understand fundamental concepts of biology, chemistry and biochemistry.
2. PO-2 Ability to apply basic principles of chemistry to biological systems and molecular biology.
3. PO-3 Ability to relate various interrelated physiological and metabolic events.
4. PO-4 A general awareness of current developments at the forefront in biochemistry and allied subjects.
5. PO-5 Ability to critically evaluate a problem and resolve to challenge blindly accepted concepts.
6. PO-6 Zeal and ability to work safely and effectively in a laboratory.
7. PO-7 Good experimental and quantitative skills encompassing preparation of laboratory reagents, conducting experiments, satisfactory analyses of data and interpretation of results.

8. PO-8 Awareness of resources, and their conservation.
9. PO-9 Ability to think laterally and in an integrating manner and develop interdisciplinary approach.
10. PO-10 Overall knowledge of the avenues for research and higher academic achievements in the field of biochemistry and allied subjects. Basics of Immunology, mechanism of hormone action etc. Industries often look towards Universities to fill that gap. Considering all these, the basic template has been designed for undergraduate programme in Biochemistry. Practicals covering the state of the art experiments imbibing finer skills shall definitely make these students in greater demand in Biotech Industries or academic research institutions and universities.

Programme Specific Outcomes

PSO-1: Provide students with learning experiences that help instill deep interests in learning biochemistry; develop broad and balanced knowledge and understanding of bimolecular, key biochemical concepts, principles and theories related to biochemistry; and equip students with appropriate tools of analysis and with theoretical, technical and analytical skills to tackle issues and problems in the field of biochemistry.

PSO-2: Expose the students to a wide range of careers that combine biology, plants and medicine.

PSO-3: provide students with some work experience, for example a summer internship or a research project in a research laboratory to further boost the career prospects.

PSO-4: develop in students the ability to apply the knowledge and skills they have acquired to the solution of specific theoretical and applied problems in biochemistry,

PSO-5: Provide students with the knowledge and skill base that would enable them to undertake further studies in biochemistry and related areas or in multidisciplinary areas that involve biochemistry and help develop a range of generic skills that are relevant to wage employment, self-employment and entrepreneurship. While it is easy to set up a PCR reaction or even make a knock out mouse effectively since these are highly skill-based events, it is difficult to understand metabolism, gene regulation.

Course Outcomes:

CO-1: Exposure to basic reactions of bio-molecules and to determine presence of bio molecules like carbohydrates, proteins, lipids etc in known & unknown samples and to determine the extent of adulteration in sample containing bio molecules.

CO-2: The student will obtain hands-on training in basic separation techniques in biochemistry like electrophoresis, chromatography etc and to gain expertise in the isolation of various bio-molecules and organelles.

CO-3: To learn basic concepts of Bio-energetic, mechanisms of oxidative phosphorylation & to acquire skills to isolate mitochondria from tissues, and to estimate photosynthetic pigments in a given sample. To acquire fundamental knowledge on enzymes and their importance in biological reactions and to understand the role of enzymes in clinical diagnosis, helps to acquire training to estimate activity of enzyme and to determine optimum temperature for the activity of an enzyme.

CO-4:To understand the storage and structural components of bio molecules, the students will be exposed with the fact that perturbations in the carbon metabolism can lead to various disorders helps to acquire the skills to estimate bio molecules such as glucose, proteins, cholesterol in clinical samples.

CO-5:Helps to acquire practical training for qualitative & quantitative analysis of biological materials such as RBC/WBC, haemoglobin, proteins, creatinine and their estimation using multiple methods & to acquire training to determine saponification value and iodine value of oil & different types of fats, helps to acquire skills in detecting food adulterant's and to determine the minerals, amino acids & sugars in foods.

CO-6:To learn about the normal constituents of urine, blood & their significance in maintaining good health and gives exposure to the mechanisms of causation of diseases of liver, kidney, To learn qualitative and quantitative analysis of constituents of biological fluids such as urine, blood and their estimation using standard methods.

CO-7:To study the discovery of DNA as genetic material, DNA replication, transcription, DNA repair & recombination, To analyse coding & non-coding regions of eukaryotic genome and their importance. To acquire learning to isolate RNA,DNA,PCR for amplification of DNA.

CO-8a: Cell biology:

To understand the structure of cell and various cellular events, and the function of various sub cellular organelles, to acquainted to various microscopic technique to visualise sub cellular organelles, to understand the composition of cytoskeleton & extracellular matrix, Helps to obtain hands, on training in basic separation techniques in biochemistry and to expertise in the isolation of various cell organelles and staining of cellular bio molecules.

8b: Research methodology:

To demonstrate the knowledge in the relevant field, to apply practical skills in the relevant field, helps to relate ideas to societal issues in the relevant field. To conduct research with minimal supervision and adhere to legal, ethical & professional codes of practice helps to generate solutions to problems using scientific & critical thinking skills.

Graduate Attributes

A graduate student shall be able to develop skill and acquire knowledge in fundamentals of Chemistry, Biology and will develop disciplinary theory and practical knowledge in the

diversified areas of Biochemistry. The students are given fundamentals in each course and they are encouraged to become unique by allowing them to perform experiments in the areas of their interest. This will enable the students to equip themselves with the basic practical training in different areas of Biochemistry ranging from Metabolism, Nutrition, Plant Biochemistry, Enzymologist, Clinical Biochemistry, Molecular Biology to Genetic Engineering, Biotechnology, etc. to take up further specialized Master level courses in these areas or to take up suitable assignments/jobs in Biotech/Biochemical industries. The students shall enjoy the academic freedom which will bring out the best from each student. These attributes are elaborated as under:

CH.S.D.ST.THERESA'S COLLEGE FOR WOMEN (A), ELURU.

DEPARTMENT OF HOME SCIENCE

PROGRAMME OUTCOME

The department envisions to give the young women an insight into the practical, scientific, economic, social aspects of running a home and also mind set to work out solutions to problems encountered in the lives.

Home Science curriculum helps young women students develop key life skills for their future professional and societal roles. Their experiences at college are designed to facilitate self-development and nurture them so that they become aware, active and enthusiastic members of the community and the nation at large.

we strive to:

- Accomplish training and development of young women for professional employment
- Generate an appreciation and respect for our cultural heritage and traditions
- Strengthen linkages with other teaching and research institutions
- Give impetus to community outreach and extension

In a nutshell, through curricular and co-curricular activities the department equips, enables and empowers young women to lead professionally rewarding and personally satisfying lives.

PROGRAM SPECIFIC OUTCOMES

Family Resource Management

- Strives at empowerment through knowledge and skills towards management of personal, family, community and shared resources for creation of sensitive, aesthetic and sustainable environment.
- To achieve an efficient use of human and non human resources in everyday living.

Textiles and Clothing

- Equips students with an understanding of design and technology in fabrics and apparel along with an appreciation of our rich textile heritage.
- To develop an eye on decoration, fashion designing and Garment Making.
- To enhance entrepreneurial skills for professional careers.

Human Development

- Human Development is devoted to understand the nature of human beings across the life span in a culturally diverse, changing and complex world.
- To know about the values and goals of marriage in family life and to develop better human relations.
- To provide knowledge of child development, needs of special children and help them to impart this knowledge to less privileged ones.

Food and Nutrition

- To make them know nutritional benefits of different target groups.
- Endeavors to achieve excellence in teaching and research for outreach to community, industry and institutions to ensure and promote health for all.

Extension Education

- To develop functional scientific attitude towards extension education and to transfer it for better family living.
- Develop understanding in extension strategies for promoting social inclusion and sustainable development.

COURSE OUTCOMES 2019-2020

I B.SC HOMESCIENCE I SEMESTER

FAMILY HOUSING

- Understanding of housing as it affects family wellbeing and social relationships
- Equipping students about the operation, use and care of various gadgets to save resources

FOOD SCIENCE AND MICROBIOLOGY

- Students learn about various food groups
- Equipping students about the various methods of food processing

HUMAN PHYSIOLOGY

- Imparting fundamental knowledge regarding the physiology of human beings.
- To make students aware of the various diseases and disorders of the various systems.

I B.SC HOMESCIENCE II SEMESTER

INTERIOR DECORATION

- Students get acquainted with the general principles of art.
- Students understand application of principles in various compositions and arrangements.

NUTRITIONAL BIOCHEMISTRY

- Students understand the properties and functions of biomolecules.
- Students understand the metabolic processes of nutrients.

GENERAL PSYCHOLOGY

- Enable the students to understand the basic concepts and principles of psychology
- Develop an understanding about the theories of psychology in relation to the normal adult human beings.

II B.SC HOMESCIENCE III SEMESTER

FIBER SCIENCE

- Understand classification of textile fibers, their properties and process involved in making yarns.
- Know about spinning, its importance and kind of yarns.

NORMAL NUTRITION

- Study the nutritional requirements throughout life cycle
- Learn to assess the nutritional status of a community

HUMAN DEVELOPMENT-I

- Enable the students to understand the sequential stages of Development throughout the life span.
- Understand the behaviour, attitudes and interests in different stages of life span.

II B.SC HOMESCIENCE IV SEMESTER

TEXTILE DESIGN

- Develop awareness and appreciation of textile design
- Acquaint students with Indian traditional costumes.

COMMUNITY AND THERAPEUTIC NUTRITION

- Know the modified nutrient requirement during different diseases
- Give the students practical experience of therapeutic diets

HUMAN DEVELOPMENT-II

- Enable the students to understand strategies and theories of human development and behaviour.
- Give special emphasis on personal adjustments of adults.

III B.SC HOMESCIENCE V SEMESTER

RESOURCE MANAGEMENT

- Impart knowledge on resource management concepts.
- Improve the students managerial ability in various situations.

APPAREL DESIGN

- Gain knowledge involved in procedures of apparel designing.
- Develop skill in construction of lady's and children's wear/Apparel.

HOME SCIENCE EXTENSION

- Give knowledge of extension education.
- Know about the process and procedures in extension education.

FOOD SERVICE MANAGEMENT

- Learn about different food service institutions
- Acquaint students with skills and techniques of food service management

DISASTER MANAGEMENT

- Develop an understanding about disasters and its management.
- Enable students to know about public nutrition.

FAMILY DYNAMICS

- Enable the students to understand fundamentals and changing trends in the institution of family.
- Study the institution of marriage for its distinctiveness, goals and stages in family life cycle.

COMMUNICATION SYSTEMS AND SOCIAL CHANGE

- Develop an understanding on importance of Communication.
- Enable the students to know about different types of Media and its significance.

ENTREPRENEURSHIP ARTISTRY

- Inculcate the habit of self learning
- Help the students to be creative/innovative
- Aware of changes taking place in the society with regard to decoration
- Sustain the interest and to act according to the changes.
- Awaken the need to supplement family income.

WOMEN EMPOWERMENT

- Sensitize students on various aspects of empowerment.
- Enhance the network between eminent women and girl students to enable them to take leadership roles in all sectors.

III B.SC HOMESCIENCE VI SEMESTER

HOME ECONOMICS

- Impart knowledge on economic concepts.
- Improve the students analytical skills about the consumer problems.

FAMILY ATTIRE AND DOMESTICS

- Develop awareness of wardrobe planning and household textiles.
- Acquaint students with traditional textiles and embroidery.

EXTENSION EDUCATION AND COMMUNITY DEVELOPMENT

- Become familiarized with rural problems and to plan programmes accordingly.
- Awareness about the rural development programmes of central and state governments

NUTRITION FOR FITNESS

- Create awareness on importance of fitness to lead healthy life.
- Educate students on various types of exercises during diseased conditions.

CRECHE & PRESCHOOL MANAGEMENT

- Enable the students to understand the importance and curriculum for preschool education.
- Empower women through establishment of a creche.

CHILDREN WITH DISABILITIES

- Impart knowledge to students on different disabilities of children.

- Develop awareness on educational practices of disabled children.

SOCIOLOGY

- Know about different social groups and institutions in the society.
- Enable students to understand about common cultural practices and social problems in India.

WOMEN ENTREPRENEURSHIP

- Strengthen the participation of students in all the entrepreneurial activities.
- Make the young girls realize their potential and help them to establish an entrepreneurial organization.

B.Sc Mathematics, Statistics & Computer science.

The aim of this Course is to provide a wide platform over a range of Mathematics, Statistics and Computer Science.

Subject areas gives expertise in Mathematical Sciences .Numerical methods for Problem Solving, Statistical modeling and Scientific Computing are Central. Have a prominent career in industry, banks, offices and for further academic study Work alongside engineering, ICT professionals and scientists to assist them in scientific problem solving Act as administrators in public, private and government organizations or business administrator or entrepreneur with further training and education Pursue master's and doctoral research degrees to work in colleges, universities as professors or as scientists in research establishments

Programme Outcomes (POs) Bachelor's degree programme in Mathematics

- develop broad and balanced knowledge and understanding of definitions, concepts, principles and theorems.

- familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences.

- enhance the ability of learners to apply the knowledge and skills acquired by them during the programme to solve specific theoretical and applied problems in mathematics.

- provide students sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas on multiple disciplines concerned with mathematics.

- encourage the students to develop a range of generic skills helpful in employment, internships and social activities.

Programme Specific outcomes for MSCs

1. Students will be able to understand basic theoretical and applied principles of statistics needed to enter the job force.

2. Students will be able to communicate key statistical concepts to non-statisticians.

3. Students will gain proficiency in using statistical software for data analysis.

4. Students will be able to communicate the major tenets of statistics, explain their work orally and identify areas of future research areas in statistics.

5. Students will be able to identify areas where ethical issues may arise in statistics.

B.Sc Mathematics, Statistics & Computer science.

The aim of this Course is to provide a wide platform over a range of Mathematics, Statistics and Computer Science.

Subject areas gives expertise in Mathematical Sciences .Numerical methods for Problem Solving ,Statistical modeling and Scientific Computing are Central.

The **Programme Objectives** are to prepare the students to:

- Have a prominent career in industry, banks, offices and for further academic study
- Work alongside engineering,ICT professionals and scientists to assist them in scientific problem solving
- Act as administrators in public, private and government organisations or business administrator or entrepreneur with further training and education
- Pursue masters and doctoral research degrees to work in colleges, universities as professors or as scientists in research establishments

Programme Specific outcomes for Statistics

1. Students will be able to understand basic theoretical and applied principles of statistics needed to enter the job force.

2. Students will be able to communicate key statistical concepts to non-statisticians.

3. Students will gain proficiency in using statistical software for data analysis.

4. Students will be able to communicate the major tenets of statistics, explain their work orally and identify areas of future research areas in statistics.

5. Students will be able to identify areas where ethical issues may arise in statistics.

Course outcomes

Name of the Course: **MATHEMATICS-I**

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the Definitions of Differential Equation Order & degree of a Differential Equation,Memorize existence & Uniqueness theorem, Working Rule to solve a differential equation by Variable Separable Method and Homogenous method.
CO-2: **Explain** the methods to solve Linear differential equations, Differential equations reducible to linear form, Exact and Non Exact differential equations.
CO-3: **discuss various methods to find** integrating factors of Mdx+Ndy=0, and to find the Solution of Homogeneous linear Differential equations of order n with constant coefficients, Solutions of the non homogeneous linear differential equations with constant coefficients by means of polynomial operators
CO-4 **Apply** Method of undetermined coefficients ,Method of variation of parameters, Linear differential equations with non constant coefficients to solve **Higher order linear differential equations.**
CO-5 Examine the **Applications of first order differential equations** such as Growth and decay, Dynamics of tumour growth ,Radio activity and carbon dating, Orthogonal Trajectories
CO-6 Investigate the **Applications of Higher order differential equations in** Rectilinear motion (Simple harmonic motion), **The simple pendulum** Damped motion, Forced motion .

Course outcomes

Name of the Course: **MATHEMATICS-II**

State the Course outcomes(CO's); The students should able to

CO-1 Recall the definitions of Circle,Plane and Line,Equations of Circle through three non Collinear points,Intersection of a line and a Circle,angle between two intersecting Circles.
CO-2Explain Joint Equation of Two Planes,angle between a line and a plane,Length of a Perpendicular from a point to line,Angle of Intersection of a Sphere.
CO-3: Discuss various methods to find the length of the perpendicular from a point to a plane, condition for a line to lie in a plane,the Shortest distance between two lines and plane section of

a Sphere
CO-4 Apply the method of angle Bisectors to find the Acute and Obtuse angle bisector.Apply the Condition for the pair of Planes to check the given equation represents pair of Planes or not.
CO-5 Find the shortest distance between Skew Lines by Various methods.
CO-6 Examine whether the given Sphere orthogonal or not. Investigate the Coplanarity of lines.

Course outcomes

Name of the Course: MATHEMATICS-III

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the definitions of Binary Operation ,Algebraic structure, semi group, monoid ,Group and memorize the elementary properties of Finite and Infinite groups , properties of homomorphism, Isomorphism, Definition of permutation ,permutation multiplication ,Inverse of a permutation
CO-2: **Explain** the concepts of Multiplication of two complexes, Inverse of a complex, criterion for a complex to be a subgroups. Criterion for the product of two subgroups to be a subgroup-union and Intersection of subgroups.
CO-3: **discuss the** properties of Cosets,Normal Subgroups, criteria for the existence of a quotient group. elementary properties of kernel of a homomorphism , fundamental theorem on Homomorphism
CO-4 **Apply** fundamental theorem on Homomorphism to solve the problems , solve problems on cyclic permutations, transposition ,even and odd permutations. use Cayley's theorem to find the left & Right Regular Permutation groups.
CO-5 **Examine** the properties of Cosets–Index of a subgroups of a finite groups, Sub group of index 2 is a normal sub group – simple group, elementary properties & classification of cyclic groups.
CO-6 construct Composition tables for groups of various orders**.** Investigate the properties of Quotient Groups and Permutation Groups**.**

Course outcomes

Name of the Course: MATHEMATICS- IV

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the properties of real numbers . principle of Induction,Well ordering PrinciplesBoundedness of subsets of R, Completeness Axiom. **Memorise** the Archimedian Property,neighbourhood of a point.
CO-2:**Explain** Range and Boundedness of sequences-Limit of a sequence, Cauchy sequences-Cauchy's general principle of convergence for sequences & series, Properties of continuous functions on a closed interval, uniform continuity, Derivability of a function at a point and Properties of integrable functions
CO-3: **discuss the** Continuity of a function at a point on an interval, Cauchy's first theorem on limits-Cauchy's second theorem-Cesaro's theorem. Derivability and continuity of a function-Algebra of derivatives, Fundamental theorem of integral calculus-Integral as the limit of a sum
CO-4 **Apply** Monotone sequence theorem to prove the Convergence of Sequences and the Necessary and sufficient condition for integrability to check the integrability of a Function.
CO-5.**Examine** the convergence of series by various tests such as P-test, Limit comparision test, Root test, Ratio test, Leibnitz test. Examine the Applications of Mean value theorems: Role's theorem, Lagrange's mean value theorem, Cauchy's mean value theorem,
CO-6 Investigate the Power series representation of functions by using Taylor's Expansion.

Course outcomes

Name of the Course: MATHEMATICS -V

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the Definitions and properties of Finite & Infinite Groups, cancellation laws. **Memorise** the Elementary properties of Homomorphism, Kernel of Homomorphism and Rank of a Matrix.
CO-2: **Explain** the Definition and basic properties of a Ring ,Boolean Rings, Integral Domains, Division Ring and Fields, The characteristic of a ring, , Sub Rings, Ideals, Principal ideal, Quotient Rings. Fundamental theorem of Homomorphism, Maximal Ideals, Prime Ideals. properties of vector spaces.
CO-3: **discuss the** Elementary properties of Homomorphism, Kernel of Homomorphism, vector Sub spaces, Algebra of subspaces, Basis extension and existence theorems , Co Ordinates , Dimension of vector space, sub space and quotient space.

CO-4 **Apply** Rank Nullity theorem to find the Rank and nullity of a linear transformation.Apply Elementary row operations of a matrix to find the Dimension of a subspace for the given basis.
CO-5**Examine** the independence & dependence of given set of Vectors. Linear transformations as vectors, product of linear transformations.
CO-6 **Investigate the** properties of Linear Transformations, The characteristic of an Integral Domain, field

Course outcomes

Name of the Course: MATHEMATICS-VI

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the properties of integrals, Boundary point, Vector function of a scalar variable, Limit and continuity of a vector function,**Memorise** algebraic definitions and geometric meanings of dot and cross.
CO-2: **Explain** the Concept of Line integral, Surface and Volume Integrals, some properties of line integrals, Simple closed curves ,The area of a subset of R^2, Double integrals, Double integral over a rectangle as limit of a sum.
CO-3: **discuss the** Directional derivative at a poiont, Gradient of a scalar point function, Level surface, Operators, Divergence of a vector, Solenoidal vector,Laplacean operator, Curl of a vector,Irrotational vector, Vector identities.
CO-4 **Apply** Fubini's theorem to find the double integral over a non rectangular region.Find the directional derivative at a given point in a given direction for a given function. apply Gauss theorem to find the Volume of given cube and sphere.
CO-5 Evaluation of Double integrals by changing the order of integration, Change of variables in a Double integral.Examine whether the given Vector Function is solenoidal or Irrotational.
CO-6 **Investigate the applications of Gauss Divergence theorem, Green's & Stoke's Theorems**

Course outcomes

Name of the Course: MATHEMATICS-VII

State the Course outcomes(CO's); The students should able to

CO-1 Recall the principle of Mathematical Induction and Binomial Expansion
CO-2: Explain the method to write a program to swap two numbers using temporary variable,a programme to calculate the average of two numbers,a C program to find the factorial of number using Recursion Formulae.
CO-3: discuss Various methods such as difference formulae, fundamental theorem of Differential Calculus,Missing terms,Factorial notation,Gauss forward and Backward Interpolation formulae to find the value of f(x) from the given data.
CO-4 Apply the Method of Newtons Forward interpolation formula to find the entry value and missing term from the given data
CO-5 Examine the applications of methods of Interpolayion,graphical method, method of curve fitting,Algebraic Method,Newtons Formulae,Newton' forward and backward interpolation.
CO-6 Investigate the applications of central difference Interpolation formulae in Gauss forward,backward formulae,Stirlings and Bessels Formulae.

Course outcomes

Name of the Course: MATHEMATICS-VIIIA1

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the definitions of sets,relations ,functions ,types of functions,Binomial Theorem,Partial Functions.
CO-2: **Explain** the Construction of Truth Table ,some methods of Proof and Problem Solving Strategies.
CO-3: **discuss various methods to solve the recurrence relation, to find the solution of Homogenous Recurrence Relations with Constant Coefficients, solution of Non Homogenous Recurrence Relations with Constant Coefficients**
CO-4 **Apply** method of Substitution ,generating functions,Characteristic Roots to solve the recurrence relations
CO-5 **Examine** the methods of proof of problems and mathematical induction.
CO-6 Develop the idea to solve the Recurrence relation by using different types of methods.

Course outcomes

Name of the Course **MATHEMATICS-VIIIA2**

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the Definitions of Binomial expansion, Definitions of Differential equation, Order and degree of Differential equations, Average Operators.
CO-2: **To write a Program** to read and display n numbers using an array. C Program to find the root of the algebraic Equationin Newtons method. A C Program to find the real root of the equation in False position method.
CO-3: **Discuss** various methods to find the smallest root of the equation and real root of the equation in Mullers method, Ramanujans method, Booles rule, Weddles rule, Trapezoidal rule and Taylors Series.
CO-4: **To Apply** various methods such as Eulers method, Taylor Series, Runge Kutta method, Simpsons $3/8^{th}$ rule, Simpsons $1/3^{rd}$ rule to find the numerical solutions of Ordinary Differential Equations.
CO-5: **To Examine** the applications of first order differential equations in Eulers method, Taylors method and to use modified Eulers method to find the Numerical Solutions of Ordinary Differential Equations.
CO-6 To Investigate the Applications of First Order Differential Equations in Trapezoidal Rule,Simpson's one third Rule and Simpsons Three-Eighth Rule.

Course outcomes

Name of the Course: **MATHEMATICS-VIIIA3**

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the definitions of Matrix ,Square Matrix,Unit Matrix,Null Matrix,Sub Matrix,Rank of a Matrix,Product of Two Matrices.
CO-2: **Explain** the methods to solve Homogenous Linear Equations,System of Non – Homogenous Equations.
CO-3: **Identify** the Homogenous linear equations**,** System of Non –Homogenous Equations
CO-4 **Apply** the method of Normal form, Echolon Form of a Matrix to find the rank of a Matrix
CO-5 **Examine** the conditions for Consistency & Orthogonality
CO-6 **Develop** the idea to solve the system of Linear equations in different types of Methods.

Course outcomes

Name of the Course: **MATHEMATICS-VIIIB1**

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the definition of Differential equation,Solution of Differential Equation,Differentiatiion & Integration.
CO-2: **Explain** the Concepts such as Generating Functions,Rodrigue's Formula,Orthogoanl Properties and Recurrance Formulae.
CO-3: **Identify** the generating functions, Orthogoanl Properties and Recurrance Formulae in Hermite Polynomial,Laguerre polynomial and Legendre's Equation.
CO-4 **Apply** elementary properties of gamma functions to solve the Problems.
CO-5 **Examine** the Recurrance formulae for Hermite Polynomials,Laguerre polynomials,Legender's equation and Bessel's Equaiton
CO-6 **Investigatethe Hermite polynomial and laguerre polynomials.**

Course outcomes

Name of the Course: MATHEMATICS-VIIIB2

State the Course outcomes(CO's); The students should able to

CO-1 Recall the properties of Equivalence relations, principle of Mathematical Induction. Memorize the Five basic Connectives AND,OR ,NOT, then, iff.
CO-2: Explain Directed Graphs, Directed Paths, Simple Graphs, Graph Isomorphism, Konigsberg Bridge Problem, utilities problem
CO-3: discuss The Incidence and Adjacency Matrices, Sub graphs, Vertex Degrees, Paths and Connection, Cycles
CO-4 Apply Karnaugh maps and Switching mechanisms to find the minimal Boolean function from a given Function. Apply Euler's Formula to verify the planarity of Graphs.
CO-5Examine the vertex coloring of a graph and find the Chromatic Number,Isomorphism of Graphs, Cut vertices & Cut edges in a graph.
CO-6 investigate Euler graphs, Hamilton Cycles in a given graph.

Course outcomes

Name of the Course: **MATHEMATICS-VIIIB3**

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the definitions of Matrix ,Square Matrix, Unit Matrix, Null Matrix, Sub Matrix, Rank of a Matrix, Product of Two Matrices.
CO-2: **Explain** the methods to solve Homogenous Linear Equations, System of Non – Homogenous Equations.
CO-3: **Identify** the Homogenous linear equations**,** System of Non –Homogenous Equations
CO-4 **Apply** the method of Normal form, Echelon Form of a Matrix to find the rank of a Matrix
CO-5 **Examine** the conditions for Consistency & Orthogonality
CO-6 **Develop** the idea to solve the system of Linear equations in different types of Methods.

Course outcomes

Name of the Course: VI SEMESTER MATHEMATICS

State the Course outcomes(CO's); The students should able to

CO-1 **Recall** the definition of Differential equation, Solution of Differential Equation, Differentiation & Integration.
CO-2: **Explain** the Concepts such as Generating Functions, Rodriguez's Formula, Orthogonal Properties and Recurrence Formulae.
CO-3: **Identify** the generating functions, Orthogonal Properties and Recurrence Formulae in Hermit Polynomial, Leaguers polynomial and Legendre's Equation.
CO-4 **Apply** elementary properties of gamma functions to solve the Problems.
CO-5 **Examine** the Recurrence formulae for Hermit Polynomials, Leaguers polynomials, Legendre's equation and Bessel's Equation
CO-6 **Investigate the Hermite polynomial and leaguers polynomials.**

Department of Chemistry

For B.Sc. (Chemistry)

Programme Outcome:

PO-1.Students can demonstrate, solve and have understanding of major concepts in all disciplines of chemistry.

PO-2. Solve the problem and also think methodically, independently and draw a logical conclusion.

PO-3. Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of chemical reactions.

PO-4. Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.

PO-5. Find out the green route for chemical reaction for sustainable development.

PO-6. Inculcate the scientific temperament in and outside the scientific community.

PO-7. Use modern techniques, decent equipments and Chemistry softwares

PO-8.Imbibe ethical, moral and social values in personal and social life leading to highly cultured and civilized personality.

PO-9.Develop various communication skills such as reading, listening, speaking, etc., which we will help in expressing ideas and views clearly and effectively.

PO-10. Realize that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.

Programme Specific Outcome:

PSO-1. Gain the knowledge of Chemistry through theory and practicals.

PSO-2.To explain nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions.

PSO-3. Identify chemical formulae and solve numerical problems.

PSO-4. Use modern chemical tools, Models, Chem-draw, Charts and Equipments.

PSO-5. Know structure-activity relationship and applications of chemistry to the real world

PSO-6. Understand good laboratory practices and safety.

PSO-7. Develop research oriented skills

PSO-8.Make aware and handle the sophisticated instruments/equipments.

For M.Sc. (Organic Chemistry)

Programme Outcome:

PO-1. Determine molecular structure by using UV, IR and NMR.

PO-2.Study of medicinal chemistry for lead compound.

PO-3. Improve the Skill of student in organic research area.

PO-4.Synthesis of Natural products and drugs by using proper mechanisms.

PO-5.Study of Asymmetric synthesis.

PO-6. Determine the aromaticity of different compounds.

PO-7. Solve the reaction mechanisms and assign the final product

PO-8. Develop a strong footing in the fundamentals and specialize in the disciplines of chemistry

PO-9.Imbibe ethical, moral and social values in personal and social life leading to highly cultured and civilized personality.

PO-10.Develop various communication skills such as reading, listening, speaking, etc., which we will help in expressing ideas and views clearly and effectively.

PO-11. Realize that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.

ProgrammeSpecificOutcome:

PSO-1. Know the structure and bonding in molecules/ ions and predict the Structure of molecule/ions.

PSO-2. Understand the various type of aliphatic, aromatic, nucleophilicsubstitution reaction.

PSO-3. Understand and apply principles of Organic Chemistry for understanding the scientific phenomenon in Reaction mechanisms.

PSO-4. Learn the Familiar name reactions and their reaction mechanisms.

PSO-5. Understand good laboratory practices and safety.

PSO-6.Study of organometallic reactions.

PSO-7.Study of free radical, bicyclic compound, conjugate addition of Enolates and pericyclic reactions.

PSO-8.Study of biological mechanisms using amino acids.

PSO-9.Understand & develop experimental skills, designing and implementation of novel synthetic methods, develop the aptitude for academic and professional skills, acquiring basic concepts for structural elucidation.

Course Outcomes:

Chemistry Paper-I Enable the student to understand the laws of thermodynamics, adsorption, electrochemistry and basics of molecular spectroscopy.

Chemistry Paper-II To acquaint knowledge on different theories of formation Coordination compounds & their applications. They will also learn homogeneous & heterogeneous catalytic reactions reaction, bioinorganic chemistry block elements and molecular orbital theory.

Chemistry Paper-III : Student will understand the basics of different types of organic reactions and characterization of compound by using UV, IR, NMR techniques.

Chemistry IV: Students must be able to understand the analysis of compounds by using gravimetric and thermal methods of analysis. They also learn the atomic absorption and flame emission spectroscopy as well as paleographic techniques**.**

Chemistry V: Students should have the knowledge of different techniques used in various industries such as sugar, cement, dyes and paints, soap and detergents etc.

Chemistry VI : Students can get the basic concept of agricultural chemistry and Dairy products.

Practical-I : Students will get the exposure to various instrumental and non-instrumental techniques.

Practical-II: Student can be able to analyze the compounds using the volumetric, gravimetric, qualitative analysis techniques,

Practical III Students will get the knowledge of methods of analysis of Organic compounds and various organic syntheses.

B.Sc (Physical Sciences & Computer Science)

Programme Outcomes (POs)

- **PO1:** Acquire knowledge in Physical Sciences with a thrust on fundamental principles and theories related to various scientific phenomena and their relevance in day-to-day life.
- **PO2:**: Graduates attain practical knowledge through hands-on training and project experience to meet the industrial needs.
- **PO3:** Graduates develop critical thinking skills to identify, analyze and solve problems of their core areas using modern tools.
- **PO5:** Graduates develop lifelong learning skills with interdisciplinary approach towards sustainable development.

- **PO6:** Ability to communicate effectively the comprehended scientific data and knowledge, write effective reports, design documentation and make effective presentations.
- **PO7:** Apply ethical, moral and social values in personal and professional life leading to highly cultured and civilized society.
- **PO8:** Ability to work effectively as an individual or as a member or Team leader in diverse teams and in multidisciplinary environs.

Programme Specific Outcomes (PSOs)

B.Sc (MPCS)

- ***MATHS***

- **PSO1:** Students develop problem solving skills and methods and develop logical tools and models used to solve various real life problems.
- **PSO2:** Students acquire knowledge of traditional and modern techniques of solving algebraic, transcendental equations, differential and integral equations, which have applications in many disciplines.

- ***PHYSICS***

- **PSO3:** The students attain sound knowledge in the areas of Mechanics, Thermal Physics, Waves and oscillations, optics, electromagnetism, Electricity, solid-state physics, Electronics, for pursing higher education and research.

- ***Computer Science***

- **PSO4:** Students acquire **ability** to design and develop software applications to address real time problems using Programming languages, Databases, Operating Systems, and Computer Network Concepts.

Programme Specific Outcomes (PSOs)

B.Sc (MECS)

- ***MATHS***

- **PSO1:** Students develop problem solving skills and methods and develop logical tools and models used to solve various real life problems.
- **PSO2:** Students acquire knowledge of traditional and modern techniques of solving algebraic, transcendental equations, differential and integral equations, which have applications in many disciplines.

- ***ELECTRONICS***

- **PSO3:** Students attain comprehensive knowledge in Electronics that will help to construct, analyze, verify, program and troubleshoot digital and discrete component circuits using appropriate tools and techniques.

- ***COMPUTER SCIENCE***

- **PSO4:** Ability to design and develop software applications to address real time problems using Programming languages , Databases, Operating Systems , and Computer Network Concepts.

Programme Specific Outcomes (PSOs)

B.Sc (MPC)

- ***MATHS***

PSO1: Use appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations including those in real life context and in competent world in getting jobs.

- ***PHYSICS***

PSO2: Demonstrate an understanding of principles and theories of Physics. The students attain sound knowledge in the areas of Mechanics, Thermal Physics, Waves and oscillations, optics, electromagnetism, Electricity, Solid-state physics,& Electronics, for pursing higher education and research.

- ***CHEMISTRY***

PSO3: Provide the key knowledge base and laboratory resources to prepare students for careers as professionals in the field of chemistry, for graduate study in chemistry, biological chemistry and related fields,

Name of the Course: **PHYSICS-I**

Mechanics, Waves & Oscillations

To develop problem solving skills and understand the concepts of Mechanics, Waves & Oscillations through the application of techniques and principles.

Course Outcomes:

1. Specialize and **update** knowledge within one of the main specializations of the mechanics.
2. **Comprehend** complicated practical problems in Mechanics, specify the problem mathematically and identify suitable analytical and/or numerical solution methods, and prospective experimental methods.
3. **Classify** the different concepts of vectors and their integrations .
4. **Differentiate** Collisions in one and two dimensions & relation between scattering cross section and impact parameter.
5. Understand the concepts of rigid body .

6. Solve differential equations in concepts of fundamentals of vibrations.

Physics -II

Mechanics, Waves & Oscillations

Course outcomes

1. Gain **knowledge** on Central forces – definition and examples, Conservative nature of central forces, Conservative force as a negative gradient of potential energy, Equation of motion under a central force.
2. **Derive** Kepler's laws, Coriolis force and its expressions.
3. To solve wave equation and understand the significance of transverse waves.
4. To solve wave equation of a longitudinal vibration in bars free at one end and also fixed at both the ends.
5. To **derive** boundary conditions of a longitudinal vibration in bars free at one end and also fixed at both the ends.
6. To **analyze** the applications of transverse and longitudinal waves.

- Physics -III

Wave Optics

Course Outcomes

1. **Understands** behavior of light in different mediums and analyses the behavior of light in mirrors and lenses

2. **Interpret** reflection and refraction of light to determine light propagation in different media

3. Use mathematical analysis to calculate image properties formed by a mirror, a lens and their combinations

4) Interpret constructive and destructive interference to visualise interference/diffraction patterns

a) Use mathematical **analysis** to find bright and dark fringes in an interference/diffraction pattern

b) Use mathematical **analysis** to find a wavelength diffracted by a grating

c) Determine a polarisation state of light by **interpreting** polariser, scattering and reflection/refraction

Physics -IV

Thermodynamics and Radiation Physics

Course Outcomes

- Gain **the knowledge** of Thermodynamics
- **Apply** various laws of thermodynamics to various processes and real systems.

- **Understands** the concept of Entropy, calculate heat, work and other important thermodynamic properties for various ideal gas processes.
- **Estimate** performance of various Thermodynamics gas power cycles and gas refrigeration cycle and availability in each case.

- **Evaluate** the condition of steam and performance of vapour power cycle and vapour compression cycle.

Physics -V

Electricity and magnetism

Course Outcomes:

1. Gains **knowledge** of basic physical laws and concepts in electricity and magnetism.

2**. Understands** relationship between electrostatic fields and electrostatic potential.

3. The student will be able **to recall** basic theories in electrostatics, electrical circuits, stationary electromagnetism and electromagnetic induction, and further be able to apply the theory by

- **Performing** calculations of electric and magnetic fields in space in some simple geometries with simple boundary conditions.
- Performing calculations of stationary and time-dependent electrical currents in simple circuits containing resistors, capacitors, and inductors.
- **Accounting for** the operational principles of simple electrical devices.
- **Handling** the most common instruments for electrical measurements.

Physics -VI

Electricity & Solid state Physics

To develop problem solving skills and understand the concepts of Electricity & Solid state physics through the application of techniques and principles.

Course Outcomes

1. Students will be able to **solve** the problems related magnetic properties.
2. Students will be able to **understand** the transverse nature of electromagnetic waves.
3. Students will be **able to analyze** different types of matter depending on nature of chemical bonds and their properties
4. Students will be able to **differentiate** the crystal structures by applying crystallographic parameters.

Physics –VII

Electronics

Course Outcomes:

1. Students **understand** symbols, truth tables, Booleans equations and working principle.
2. Explain the theoretical principles essential for understanding the operation of electronic circuits.
3. To **learn** function of basic digital circuits and use of transistor to create logic gates in order to perform Boolean logic.
4. To **learn** basic concepts of semiconductor diodes such as P-N junction diode, zener diode.
5. To **apply the basics** of diode to describe the working of rectifier circuits such as full and half wave rectifier.
6. Apply the acquired knowledge essential for the **design** of electronic circuits.

Physics cluster VIII-A1

Circuit Analysis

To develop problem solving skills and understanding of circuit theory through the application of techniques and principles of electrical circuit analysis to common circuit problems.

Course Outcomes:

1. To be able to **understand** basic electrical properties
2. To be able to **analyze** electrical circuits
3. To be able to **find** circuit response using Laplace transform
4. To understand signal superposition and Fourier transform

Physics cluster VIII-A2

Analog & Digital IC applications

Course Outcomes

1. Develop the **ability to analyze** and design digital & analog electronic circuits using discrete components.
2. **Observe** the amplitude and frequency responses of common amplification circuits.
3. **Design,** construct, and take measurement of various analog circuits to **compare** experimental results in the laboratory with theoretical analysis.

Physics Cluster VIII-A3

Introduction to Electrical measurement and Circuit protection

Course Outcomes:

Students are able to

1. **Understand** basics of R , L , C circuit elements and voltage and current sources
2. **Appreciate and analyze** DC, AC and magnetic circuits using KVL and KCL.
3. **Understand** working principle of various analogue electrical measuring instruments.
4. **Comprehend** the working of DC machines, transformers and induction Motors.

Electronics –I

Circuit Analysis

To develop problem solving skills and understanding of circuit theory through the application of techniques and principles of electrical circuit analysis to common circuit problems.

Course Outcomes:

1. To be able **to understand** basic electrical properties
2. To be able to **analyze** electrical circuits
3. To be able to **find** circuit response using Laplace transform
4. To understand signal superposition and Fourier transform

Electronics-II

Electronic devices

Course Outcomes:

Students will try to learn:

1. To **understand** operation of semiconductor devices.
2. To understand DC analysis and AC models of semiconductor devices.
3. To **apply** concepts for the design of Regulators and Amplifiers
4. To **verify t**he theoretical concepts through laboratory and simulation experiments
5. To **design** and analyze of electronic circuits,
6. To **evaluate** frequency response to understand behavior of Electronics circuits.

Electronics III

Digital Electronics

Course Outcomes:

1. Have a thorough understanding of the fundamental concepts and techniques used in digital electronics.
2. To understand and **examine t**he structure of various number systems and its application in digital design.
3. To understand**, analyze and design** various combinational and sequential circuits.
4. To **identify** basic requirements for a design application and propose a cost effective solution
5. To identify and prevent various hazards and timing problems in a digital design.
6. To **develop skill** to build, and troubleshoot digital circuits

Electronics-IV

Analog & Digital IC applications

Course Outcomes:

1. To develop the **ability to understand, analyze and design** digital & analog electronic circuits using discrete components.
2. **Observe** the amplitude and frequency responses of common amplification circuits.
3. **Design, construct,** and take measurement of various analog circuits to compare experimental results in the laboratory with theoretical analysis.

Electronics-V

Basic Communication Techniques

Course Outcomes:

Students are able to

- **Understand** and apply the knowledge of statistical theory of communication and explain the conventional digital communication system.
- **Apply** the knowledge of signals and system and evaluate the performance of digital communication system in the presence of noise.
- Apply the knowledge of digital electronics and **describe** the error control codes like block code, cyclic code.
- **Analyze** the digital communication system with spread spectrum modulation.
- **Design** as well as **conduct** experiments, analyze and **interpret** the results to provide valid conclusions for digital modulators and demodulator using hardware components and communication systems.

Electronics-VI

8085 Microprocessor

Course Outcomes:

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

- **Demonstrate** computer architecture concepts related to design of modern processors,
- **Create** the memory interfacing techniques and I/O interfacing techniques with 8085.
- **Analyze** the performance of commercially available computers.
- To **develop** logic for assembly language programming

Electronics-VII

8051 Microcontroller

Course Outcomes:

- **Gain** comprehensive knowledge about architecture and addressing modes of 8051
- **Write** assembly language program in 8051 for various embedded system applications
- **Implement** the middle level programming and interfacing concepts in 8051
- **Use** external interfaces in various embedded system projects
- **Design** and implement programs on 8051, ARM, PIC.
- **Describe** the architecture and instruction set of ARM microcontroller

Electronics-VIII –A1

Electronic Instrumentation

Course Outcomes:

- **Recognize** the evolution and history of units and standards in Measurements.
- **Identify** the various parameters that are measurable in electronic instrumentation.
- **Employ** appropriate instruments to measure given sets of parameters.
- **Practice** the construction of testing and measuring set up for electronic systems
- **To have a deep understanding** about instrumentation concepts which can be applied to Control systems?
- **Relate** the usage of various instrumentation standards.

Electronics VIII – A2

Radar Systems & Antennas

Course Outcomes :

1. **Know** the fundamentals of Antennas & concept of radio wave propagation and Illustrate the different types of arrays and their radiation patterns.

2. **Analyze** a complete radio system, from the Transmitter to the Receiver end with reference to antenna and Quantify the fields radiated by various types of antennas.

3. Analyze antenna measurements **to assess** antenna's performance.

4. Demonstrate an understanding of the importance of Matched Filter Receivers in Radars.

5. Familiarize with the different types of Radar Displays and their application in real time scenario.

6. Know the suitable measurement methodologies **to characterize and verify** the performance of radar systems and design it to undertake measurements to characterize and verify the performance of radar systems.

Electronics VIII – A3

Power Electronics

Course Outcomes :

1. **Acquire knowledge** about fundamental concepts and techniques used in power electronics.
2. **Ability to analyze** various single phase and three phase power converter circuits and understand their applications.
3. Foster ability **to identify** basic requirements for power electronics based design application.
4. To **develop skills** to build, and troubleshoot power electronics circuits.
5. Foster ability **to understand** the use of power converters in commercial and industrial applications.

Name of the Programme: Bachelor of Arts (B.A)

Programme Outcomes

Three years Bachelor's Degree programme in Social Sciences designed in a such away to encourage students to choose different courses in their career . The course is offered in combination with History ,Economics ,political science ,Psychology and social work . The course incorporates a variety of modes of learning and teaching The BA course provides an education in variety of contexts. The BA aims to offer education that is accessible to students with a wide range of educational backgrounds and professional and personal circumstances.

We accomplish these through a strong curriculum that is revised and updated on a regular basis, knowledgeable and dedicated professors, and bright, motivated peers. In addition, we offer several meaningful learning experiences and opportunities inside and outside the classroom that enhance your learning and professional preparation.

PROGRAMME OUTCOMES IN ECONOMICS

PO1: Basically, economic graduates are familiar with the knowledge and application of microeconomics and macroeconomics for the formulation of policies and planning. They are equipped with all the relevant tools/ knowledge based on economic principles including market functions and structures, efficiency in manpower and resources management, need of credit/finance for initiating and accelerating projects.

PO2: As the Under Graduate Course (UGC) contains the fields like statistics, mathematics and economics principles, it enhances them to compute and assess the real situation of the economy including the size and changes of population, income pattern, nature of an extend of employment, rate of development with pattern of investments and savings, policies in relation to other countries, and social security measures adopted in the country.

PO3: Economics students in general will be able to pinpoint and understand the past, present economic conditions of the country. They will also be able to forecast the future course of changes and development through their knowledge of policies and programmes set by the governments and other development agencies. They are equipped with the techniques to find solution of the problems like mobilization of manpower and materials available in the country

POL 4 Graduates from our department are effectively taught and explained the cause with the help of visual aids like white board and PowerPoint presentation. They will be able to visualize the real world situation and enhance them to initiate the programmes for pursuing studies and be alert with the

importance of entrepreneurial skills for their self-employment, to improve the general attitudes and living conditions of the masses

PO5: Though the syllabi do not contain research methodology, students are taught the techniques to collect and disseminate information like primary and secondary data, preparation of questionnaire. Students are deployed to do survey and on the spot interaction with the personnel of the case under study. Students who graduated from this institution are directly involved and effectively participate in the discussions and final presentation of the findings of the projects undertaken.

Programme Specific outcomes B.A (HEP and EPSW)courses

PSO1.The B.A. graduates can pursue B.Ed. course and opt teaching career in the schools. Also they can do Post Graduate Studies in their respective subjects studied in 'Under Graduate' level. After their Post Graduation they may do M.Phil or Ph.D. and take teaching as their career in higher education institutions like Degree colleges and Universities.

PSO2.Other Career options:- Journalism, Tourism, Judiciary (Law), Linguistics, etc. They are eligible to appear for any competitive exams conducted by Union Public Service Commission (UPSC),

Bachelor's degree in psychology can get number of career paths.

PSO3.These career paths may or may not be in the field of psychology; the skills acquired from a bachelor's in psychology can be applied to a wide range of promising fields. The majority of students with a bachelor's degree in psychology go on to work in human or social services. Some typical jobs in this field of work are: career counselor, psychiatric technician, rehabilitation specialist, and case manager.

PSO4.Social work graduates work in diverse settings, including criminal justice, child welfare, healthcare, school social work, government, mental health, agencies for the elderly, research organizations, advocacy, human rights, community development, international social work and substance abuse programs.

Course outcomes -

Paper I- Micro Economics -I

CO 1 : Students will understand and demonstrate core micro-economic terms, concepts, and theories.

CO2: Students will be able to differentiate between positive and normative statements.

CO3: Students will be able to analyze data to solve complex economic problems.

CO4: Students will understand general economic concepts (supply & demand, comparative advantage, opportunity cost, etc.).

Paper II-Micro Economics II

CS1: To able to understand price determination of factors

CO2: To able to understand concept of profit & Interest

CO3.: To able to understand market equilibrium of firm in monopolistic market.

Paper III-Macro Economics – I

CO1: To able to understand macro economic analysis

CO2: Able to understand of national income

CO3: Able to understand classical & Keynesian theories of output and employment

CO4.: Able to understand consumption & Investment function

Paper IV- Macro Economics – II

CO1. Able to understand process of credit creation by commercial banks

CO2. Able to understand Quantity theory of money.

CO3. Able to understand various macroeconomic policies .

CO 4 . To able to understand money & banking

PAPER V (INDIAN ECONOMY)

CO1 Explain economic growth and development, illustrate Harrod-Domar and Solow's growth model, distinguish between economic growth and technical progress

CO2. Develop ideas of the basic characteristics of Indian economy, its potential on natural resources.

CO3. Understand the importance, causes and impact of population growth and its distribution, translate relate them with economic development

C**O 4** To Understand the concepts of Liberalization, Privatization and Globalization

Paper VI Indian Economy with special Reference to Andhra Pradesh

CO1: To able to understand Indian agriculture sector

CO2: To able to understand agricultural prices, marketing & subsidies in India

CO3: To able to understand Indian Industrial and services sector

CO4 : To able to understand Andhra Pradesh Economy

Paper VII : Public Finance

CO1 : To able to understand concept of public fiancé

CO2: To able to understand concept of public revenue

CO3: To able to understand concept of public debt

CO4.:To able to understand incidence & approaches of taxation

Cluster - VIII AI : INDUSTRIAL ECONOMICS

CO: To Able to understand the Economic Problems of the firms and Industries and their relationship with the society

CO : To able to understand Industrial polices in India .

C**O** :To able to understand Economic Reforms like liberalization ,privatization , and Globalization

CO : to able to understand the role of MNCs .

Cluster VIII AII– LABOUR ECONOMICS

CO1 To able to Understand the importance of labour in production.

CO2 To able to Understand the organised and unorganised labour in different sectors .

CO3 To Gain the knowledge of wage differentials and wage policy.

CO4 To able to Understand the importance of collective bargaining

Cluster VIII AIII : Industrial Management

CO 1:Students will be able to perform the Management Functions.

CO2 :Students will be able to compare selected Theories of Management and different forms of organizations

CO 3:Students will be able to perform quality management .

CO 4:Students will be able to use basic Business Application Software.

CO 5:Students will be able to assess ethical issues in Business situations

Programme Specific outcomes political science

- **PSO 1** :Familiarity with different approaches to the study of political sciences and an ability to apply the Concept and theories of Political science . The students will develop and be able to demonstrate academic proficiency in the subfields of Indian Government and Politics, Local Government, International Relations, Public Administration, Political Theory and Political Thought .
- **PSO2** :The course curriculum inculcates among students a basic understanding of the rights and duties of citizenship and thereby to act as responsible citizens through the observation of important days such as Independence Day, Republic Day and also spreading awareness in society through street plays based on specific socio political issues such as domestic violence, disillusioned youth of the materialistic world etc.

- **PSO3**: Establishment of linkages between academics and civil society at large so as to successfully address socio political problems. The fortnightly wall journal is a means for keeping the entire student population up to date with political occurrences both global and domestic. Debates, seminars and panel discussions are also regularly organized on relevant themes and participation is sought from experienced resource persons

- **PSO4**: Students will develop and be able to demonstrate skills in conducting as well as presenting research in political science. The Students will develop and be able to demonstrate skills in analytical and critical thinking.

Course Outcome in political Science

Paper I Basic Concepts of Political Science

- **CO1**: Analysing what is Politics and explaining the approaches to the Study of Political Science – Normative, Historical and Empirical Traditions
- **CO 2**: Assessing the theories of State (Origin, Nature, Functions): Contract, Idealist, Liberal and Neo-Liberal Theories.
- **CO 3**: Explaining the Concept of State Sovereignty: Monistic and Pluralistic Theories, Analysing the changing concept of Nation and Nationality .
- **CO 4**: Classification of Rights of Indian Citizen and Citizenship and Understanding basic concepts of Liberty, Equality, and Justice.

Paper II : Political Institutions (concepts ,Theories and Institutions

- **CO 1:** Students will get aware of the different political systems that are working throughout the world.
- **CO 2:**Students get interest in knowing about the working of constitution and constitution law in various countries.
- **CO 3:**They will understand the inter link between the organs of the government.
- **CO 4:** They will get knowledge about democracy, and the differences between direct and indirect democracy.

Paper III :Indian Constitution

- **CO1**: Introducing the Indian Constitution with a focus on the role of the Constituent Assembly and examining the essence of the the Preamble.
- **CO 2**: Examining the Fundamental Rights and Duties of Indian citizens with a study of the significance and status of Directive Principles.
- **CO3:** Assessing the nature of Indian Federalism with focus on Union-State Relations.

- **CO 4**: Critically analyzing the important institutions of the Indian Union: the Executive: President; Prime Minister, Council of Minister s ; The legislature: Rajya Sabha, Lok Sabha, Speaker, The Judiciary: Supreme Court composition and functions- Judicial Activism
- **CO5**: Looking at the Constitutional Amendment Procedure with focus on the main recommendations of the Constitutional Review and Basics Structure of Constitution

Paper IV :Indian Political process

- **CO1 :**Teach and Evolution of Approach to Study the political process in India they Examine Modernization and Marxian Approach
- **CO 2**: Evaluating the role of various forces on Indian politics: Communalism and Secularism and Religion at peasants
- **CO 3:** Critically evaluating the Indian Party system – its development and looking at the ideology of dominant national parties and Regional Parties. Evaluating the Electoral Process in India and Assess how elections affect the behavior of public officials
- **CO 4**: Investigating the Andhra , Telangana agitations and Naxalists movement
- **CO 5:** Analyzing the new Government programmes working like swatch Bharath ,Make in India and Made in India and National Skill development corporation They Provide awareness in this programmes

Paper V Indian and Western political Thought

- **CO 1:**- Providing an insight into the dominant features of Ancient Western Political Thought: Ancient Greek political thought with focus on Aristotle and Plato; Roman Political Thought: its contributions with special emphasis on the emergence of Roman law.
- **CO2:**- Examining the features of Ancient l Political Thought. They Evaluating the Manu Varnadharma and Dandaneeti ; political thought of Reformation; and Machiavelli.
- **CO3:-** Critically examining Hobbes as the founder of the science of materialist politics; Locke as the founder of Liberalism with focus on his views on natural rights, property and consent; and Rousseau's views on Freedom and Democracy; Bentham's Utilitarianism; and John Stuart Mill's views on liberty and representative government.
- **CO 4:**- Analysing the nationalist thought of Raja Rammohun Roy and Assessing the nationalist thought of . Discussing the roots of communalism- Savarkar and Hindu Nationalism and Jinnah and the two nation theory
- **CO 5:** - Discussing the nationalism of Gandhi, M. N. Roy, Narendra Deva and . Analysing the Gandhian.

PAPER VI :PRINCIPLES OF PUBLIC ADMINISTRATION

- **CO 1:**- Explaining the nature, scope and evolution of Public Administration; Private and Public Administration;
- **CO 2-:** Discussing the ,Classical approach ,Scientific Management approach ,Human Relations approach , Ecological approach and Decision Making approach to Pub. Adm.

- **CO 3:-** Analysing the Administrative Processes: decision making; communication and control; leadership; co-ordination and Line and Staff agencies
- **CO 4:-** Examining the Institutions of Personnel Administration in India and evolution of Motivational Theories

Paper VII :Local Self Government In Andhra Pradesh

- **CO1 :** Examining the Institutions of Local Self Government in India, Local self government implies the transference of power to rule to the lowest rungs of political order .It is form of democratic decentralisation where the participation of even the grass root level of the society is ensure in the process of Administration
- **CO2:**They understand the knowledge on evolution of local self Government and recommendations of Balwantrai ,Ashok Mehta committees and They clear idea on 73rd and 74th constitutional amendments .
- **CO**3:They analysis the structure and functions of Rural and urban governments and They applying knowledge on role of leadership and Emerging challenges
- **CO** 4:They aware the strategies of Rural development and role of people participation in Rural development .

Paper VIII (a)-C1: International Relations

- **CO**1:Students get the understanding about the different nations and relations between them.
- **CO**2:Knowing about the post – world war scenario, makes them to realize importance of peace and adversities of conflict.
- **CO3:**A strong hold on international relations will give them success in competitive exams like UGC-NET, SLET, and Civil Services etc.
- **CO4:**Choosing international relations as the career will give them employment in NGOs and other international organizations.
- **CO5:** As a broad in its scope, it has a many chance in taking up research and taking up research in international relations will have bright career.

Paper VIII (b)-C2: India's Foreign Policy

- **CO1** :Students get interest in knowing the relations of various countries with India, which makes them to follow contemporary events happening in foreign policy.
- **CO2**:Brings them awareness on trends in India's foreign policy since the time of independence to till today.
- **CO3;**It creates interest to know the social culture and political culture of various nations all over the world.
- **CO4**;It is helpful while writing competitive exams like UGC NET, SLET and Civil Services.

- **C05:** As because of its vast area of study gives more opportunities for students while choosing foreign policy as their area of research.

Paper VIII (c)-C3: Contemporary Global Issues

- **CO** 1 :students get affinity with international community and show their responsibility towards the problems of the world.
- **CO2:**They try to find various solutions for the post globalization problems.
- **CO 3:** Helpful for students while writing competitive exams like UGC NET, SLET, APPSC, UPSC, RRB, SSC etc.
- **CO4** :Encourages the students to choose area for research purposes . And Leads them to understand the importance of reading international problems in Political Science.

Department of Commerce

Programme outcomes

It is not possible to imagine world without business. In the same way business moves forward with accounting. Accounting is the language of business. It reveals the results of business like profits/losses and financial position etc.

PO1. The reliability of prepared accounts is checked and approved by auditors. B.Com Students can be equipped with all these aspects and in addition to that they learn basic principles and techniques of Management and taxation.
PO2.They will be equipped with computer knowledge and business administration techniques.
PO3.They can understand and implement the basic principles and practices of auditing like internal check, vouching.
PO4.They can understand, manage, prepare accounts of companies, banks, insurance companies etc and submit reports on performance of those firms
PO5.They can analyse and draw conclusions on the performance of business units and can decide credit worthiness. Students can be placed in companies as accountants, office assistants, storekeepers etc.

Programme Specific Outcomes

B.Com General

- Students become familiar with the basic concepts of business, trade , commerce and industry
- They will be able to understand the principles and practices of Accounting
- They can prepare and maintain books of accounts and understand the results of business
- They are able to understand the basic concepts of economics
- They will be able to understand the principles of Management and implement them
- They can manage business, problems in business ,people and situations
- They can understand the general principles of banking theory and practice

- They are able to understand and follow the Financial services
- They can understand and implement the basic principles and practices of Auditing like internal check , vouching
- They can understand and predict customer requirements and consumer behaviour
- They can understand and follow E business transactions
- They can understand , manage, prepare accounts of companies, banks , insurance companies etc and submit reports on performance of those firms
- They can study, analyse and draw conclusions on the performance of business units and can decide credit worthiness.
- Students can be placed in companies as accountants, office assistants , storekeepers etc

B.Com Finance

- Students acquire knowledge about basic concepts of Finance and Financial Management
- They will be able to understand the concepts of acquiring the funds required for the business and their utilisation in business
- They can understand and implement the techniques of both accounting and finance related aspects in business
- They can make Financial Statement Analysis and draw conclusions
- They can prepare and implement various budgets and budgetary control
- They can easily follow Finance related topics in further studies like MBA as they learn basic concepts of Finance
- They will be able to understand the principles of Management and implement them
- They are able to understand and follow the Financial services
- They can understand and implement the basic principles and practices of Auditing like internal check , vouching
- They can be placed as Assistant Finance Manager, Office in charge, Store keeper etc

B.Com Computers

- Students can understand the basic concepts of business, trade, commerce and Industry
- They can understand and implement the principles and techniques and practices of accounting
- They acquire computer skills as they learn computer papers
- They will able to understand and utilise the computer knowledge in the field of business and Office Administration
- They will be able to understand the principles of Management and implement them
- They can manage business, problems in business ,people and situations
- They can understand the general principles of banking theory and practice
- They are able to understand and follow the Financial services
- They can make financial statement analysis by using computers

- ❖ They can prepare, maintain and manage Business Accounts and submit reports about various aspects of business like performance of business etc by using the Tally and other computerised accounting techniques.
- ❖ They will be equipped with computer knowledge and business administration techniques
- ❖ Students can be placed in companies as accountants, office assistants , storekeepers etc

Course Outcomes

I B. COM, (Gen, Comp & Finance) I&II SEMESTERS

FINANCIAL ACCOUNTING

I B.Com (Gen, Comp & Finance) I &II Semesters

Business Statistics

Outcomes

- Students will be able to understand and apply basic techniques of Statistics
- They will be able to prepare and interpret tables and charts
- They can make simple analysis on the worked out results

I B. Com (Gen, Comp & Finance) I &II-SEMESTERS

BUSINESS ORGANIZATION AND MANAGEMENT

Outcomes

- Students can implement business skills
- They can apply acquired knowledge in business practices
- They will be able to understand and say about various types of business units
- They can plan things and manage people and business
- They can become good leaders

I B.COM (Finance) I &II SEMESTERS

Business Finance

Outcomes

Students can understand and apply simple principles of Finance

II. B. Com.,(Gen, Comp & Finance) III& IV Semesters,

Banking & Financial Services & Merchant Banking

Outcomes

- Students can understand basic functions and services of Banks and Financial Institutions and their usefulness

- They will be able to make use of those functions and services

II B.COM (Gen, Comp & Finance) III SEMESTER

Corporate Accounting

Outcomes

- Students can understand types of shares and debentures
- They gain knowledge on various aspects of Companies Act 2013
- They become able to prepare company Final Accounts

II B.COM (Gen & Comp) III SEMESTER
E – COMMERCE

Outcomes

- Students can understand and operate computer
- They can use Internet for their academic work, and sending mails etc
- They can operate and do the activities of E' Business and E' Banking etc

II B.COM (Gen & Finance) III&IV SEMESTERS

INCOME TAX & GST

Outcomes

- Students can understand the concepts of Income tax and GST
- They will be able to calculate tax liability of an individual, firm etc
- They will become able to file tax returns
- They can understand and make suggestions on service tax

II B.COM (Finance) III & IV SEMESTERS
FINANCIAL MANAGEMENT – I & II

Outcomes

- Students can understand and apply simple principles of Finance
- They will be able to understand and apply The Financial Management techniques in business and their personal life also
- They can make good investment and Financing decisions

II B.COM, (Gen, Comp & Finance) IV SEMESTER

Accounting for Service Organizations

Outcomes

- Students become familiar with the preparation of final accounts of Service organizations.

- They get an idea on Various types insurance, valuation of surplus of insurance companies
- They become able to understand the system of Non trading Concerns and their system of Accounting.
- They can understand and prepare final statements Banks

II B.COM (Gen & Comp) IV SEMESTER

BUSINESS ENVIRONMENT

Outcomes

- Students gain knowledge on internal and external environments
- They can understand the impact of environment on development of Business
- They will be able to understand different types of environments like political, cultural and legal etc

III. B. Com., (Gen) V Semester,

International Business

Outcomes

- Students can understand the significance of International business
- They are able to follow up export and import procedures
- They gain knowledge on International Business Laws and labor laws

III B.COM (Gen, Comp & Finance) V SEMESTER

AUDITING

Outcomes

- Students can understand the importance of Auditing and role of Auditor while undertaking Auditing
- They can do internal audit , Internal check
- They will be able to conduct vouching to verify the documentary evidences
- They can prepare Audit programme and Audit Report

III B. Com (Finance) V Semester

Fundamentals of International Financial Management

Outcomes

- Students can understand the importance of International Financial Management
- They can understand

- They can gain knowledge on the activities of International Market and Foreign Exchange markets

III B.com (Finance) V & VI Semesters

Security Analysis & Portfolio Management I & II

Outcomes

Students can understand advantages and disadvantages of various securities

- They gain knowledge on Investment and return on investment
- They will be able to understand functions of stock exchanges

III B.COM (Gen, Comp & Finance) V SEMESTER

BUSINESS LAW

Outcomes

- Students can understand the importance of Various aspects of Business Law
- They gain knowledge on Contracts and essentials for a valid contract.
- They will be able to follow up the process to enter into a contract and monitoring its execution

III B.Com (Gen, Comp & Finance) V Semester

HUMAN RESOURCE MANAGEMENT

Outcomes

- Students can understand the importance of various aspects of Human Resources Management.
- They will be able to understand and follow the recruitment, selection training and development processes.
- They can follow and succeed in the process of Performance Appraisal.

Cluster-I

III B.Com (Gen) VI Semester

Advertising and Sales Promotion

Outcomes

- Students can understand the importance of Advertising and sales promotion
- They can create and execute Advertising aspects
- They can select the method of advertising basing on needs

III B.COM (Gen, Comp & Finance) VI SEMESTER

Management Accounting

Outcomes

- Students can understand the importance of Ratio analysis and its applications
- They can use various types of ratios for different purposes
- They can make use of Funds Flow and Cash flow techniques for practical purposes
- They can be placed as accountants

III B.COM (Gen, Comp & Finance) VI SEMESTER

BUSINESS COMMUNICATION

Outcomes

- Students gain knowledge on basic aspects of communication and business communication
- They will become able to write business letters and make business correspondence
- They can analyze business information and report the matter to the people concerned
- They can be placed as office in charge to take up the responsibilities of business correspondence and Report writing

III. B. Com (Gen, Comp & Finance) VI Semester

Company Law

Outcomes

- Students acquire knowledge on basic aspects of Company Law and its applications
- They will be able to understand and implement various aspects of Factories Act like safety measures etc
- They can analyze information in the important documents of company like Memorandum of Association etc and suggest the procedure to be followed for their alteration.
- They will be able to understand and provide assistance in carrying out the winding up process
- They can be placed as an assistants to Managers and secretaries in companies

III B.Com. (General) V SEMESTER

MARKETING MANAGEMENT

Outcomes

- Students acquire knowledge on basic aspects of Marketing Management
- They can understand marketing environment and segmentation and the different products that can be marketed in different markets

- They can analyze different pricing methods suitable for different situations
- They can be placed as Marketing Managers

III B.COM (Gen, Comp & Finance) V SEMESTER

COST ACCOUNTING

Outcomes

Students gain knowledge on the fundamental points of Cost Accounting and procedures

- They can prepare and maintain Stores records
- They will be able to manage process of finding out the costs and profits of products
- They can be placed as store keepers and assistants to cost accountants

III. B. Com (Gen, Comp. Finance) VI Semester

OFFICE MANAGEMENT

Outcomes

- Students acquire knowledge on practices and procedures in office
- They can manage various functions in office
- They can handle office equipment for various purposes
- They can be placed as office assistants and sub managers

III B. Com (Finance) VI Semester Syllabus

Working Capital Management

Outcomes

- Students gain knowledge on the fundamental points of Working Capital and working capital management
- They can understand cash management and prepare cash budget
- They will be able to manage receivables and inventory of business
- They can be placed as office assistants and sub managers

Brand Management

III B.Com (Gen) VI Semester

Outcomes

- Students acquire knowledge on various aspects of Brand Management
- They can understand the importance of Brand Management
- They can handle the aspects involved in Brand Management
- They can be placed in Marketing departments

DEPARTMENT OF MANAGEMENT STUDIES

Programme Outcome:

PO1.The student develop managerial approach for the students who seek career in business and corporate job market.

PO2. It offers a deep understanding of development of skills such as leadership, communication skills, critical thinking and decision making.

PO3.The programme helps learning environment to imbibe the business capabilities for effective decision making with ethical, societal and environmental values.

PO4.build strong manpower with global exposure for quality contribution towards business excellence.

BBA PROGRAMME SPECIFIC OUTCOMES:

BBA programme has been designed to prepare graduates for attaining the following specific outcomes:

PSO1•**Critical Thinking Skills:** Students are able to define, analyze, and devise solutions for structured and unstructured business problems and issues using cohesive and logical reasoning patterns for evaluating information, materials, and data.

PSO**2 Life Skills:** Students are taught to function effectively as an individual and as a member or leader in teams, and in multidisciplinary settings by demonstrating life skills, coping skills and human values.

PSO3**Communication Skills:** Students are able to conceptualize a complex issue into a coherent written statement and oral presentation.

PSO4**Technology Skills:** Students are competent in the uses of technology in modern organizational operations.

PSO5**.Entrepreneurship and Innovation:** Students can demonstrate the fundamentals of creating and managing innovation, new business development, and high-growth potential entities.

PSO6**Business Knowledge:** Students can demonstrate technical competence in domestic and global business through the study of major disciplines within the fields of business. It fosters think tanks in global business solutions with a holistic approach.

Course Outcomes

I BBA - Semester-I

Paper-1: Managerial Economics.

Course Outcome:

Upon completion of this course, students will be able to:

- Develop capacity to analyze the economic environments in which business entities operate.
- Understand how managerial decisions can vary under different constraints.

Paper-II: Management Process.

Learning Outcome:

Upon completion of this course, students will be able to:

- Gather the knowledge about the principles of management which is essential for all kinds of people in all kinds of organizations.
- Develop a clear understanding of the managerial functions like planning, organizing, staffing, leading and controlling.
- Gain some basic knowledge on international aspect of management.

Paper-III: IT for Managers

Learning Outcome:

Upon completion of this course, students will be able to:

- Use and apply current technical concepts and practices in the core information technologies.
- Use Basic Microsoft Office Software Package with MS-Word, MS-PowerPoint, MS Access Excel.

Paper-IV: Organisational Behavior.

Learning Outcome:

Upon completion of this course, students will be able to:

- Demonstrate the applicability of the concept of organizational behavior
- Understand the behavior of people in the organization.
- Imbibe the concepts related to Personality, Perception, and attitude and to connect its influence for Organisational Development.
- Understand of group dynamics and demonstrate skills required for working in groups (team building).

I BBA- II SEMESTER

Paper-I: Business Environment.

Learning Outcome:

Upon completion of this course, students will be able to:

- Understand the concepts of Business, Industry and commerce.
- Analyse different forms of organisation and its effect on Business Environment.
- Gain knowledge regarding different dimensions of Business Environment and its powerful effect on Business Entity.
- Develop understanding regarding overview of Government Policies in India post liberalization and its impact on Business Empires.

Paper-II: Quantitative Techniques for Management.

Learning Outcome:

Upon completion of this course, students will be able to:

- Provide the basic knowledge of quantitative methods and their application to commercial situation and for decision making in business.

Paper-III: Accounting For Managers.

Learning Outcome:

Upon completion of this course, students will be able to:

- Acquire conceptual knowledge of basics of financial accounting.
- Understand the list of accounting standards and their application.
- Demonstrate hands on skills in preparing Financial Statements of a Business enterprise.

II BBA- III SEMESTER

Paper-I: Human Resource Management.

Learning Outcome:

Upon completion of this course, students will be able to:

- Acquire knowledge on HRM, its environment, methods of selection, and Interview techniques.
- Impart the skills to manage various functions of Human Resource Management in order to provide the professional approach and outlook.

Paper-II: Event Management.

Learning Outcome:

Upon completion of this course, students will be able to:

- obtain a sense of responsibility for the multi-disciplinary nature of event management
- gain confidence and enjoyment from involvement in the dynamic industry of event management

Paper-III: Operations Management.

Learning Outcome:

Upon completion of this course, students will be able to:

- Understand the concepts, principles, problems, and practices of operations management.
- Identify and articulate how operations management contributes to the achievement of an organization's strategic objectives.

II BBA- IV SEMESTER

Paper-I: Financial Management.

Learning Outcome:

Upon completion of this course, students will be able to:

- Develop critical thinking and problem solving competencies, at both the individual and group levels, of capital budgeting, capital structure,
- Apply financial theory to analyze real life situations in an uncertain environment.

Paper-II: Marketing Management.

Learning Outcome:

Upon completion of this course, students will be able to:

- Develop understanding about marketing management concepts and frameworks.
- Analyse an organization's marketing strategies**,** formulate and assess strategic, operational and tactical marketing decisions.
- Enhance business communication skills required to work effectively with a marketing team.

Paper-III: Fundamentals of Research Methodology.

Learning Outcomes:

Upon completion of this course, students will be able to:

- Apply the basic understanding of research methodology into the application of modern analytical tools and techniques for the purpose of management decision making.
- Identify the overall process of designing a research study from its inception to its report.

III BBA- V SEMESTER

Paper-I: E- Business.

Learning Outcomes:

Upon completion of this course, students will be able to:

- Understand the concept of electronic commerce, and how electronic commerce is affecting business enterprises, governments, consumers and people in general**.**
- Recognize the impact of Information and Communication technologies, in business operations.

Paper-II: Taxation - I

Learning outcome:

Upon completion of this course, students will be able to:

- Understand the tax concepts and calculate Total Income & Tax Liability.
- Identify and explain the self-assessment system of tax administration.

Paper-III: Business Law

Learning outcome:

Upon completion of this course, students will be able to:

- To understand legal procedures and practices of an organisation.
- Understand the basic legal concepts and the Indian legal environment in which business is carried on.

Paper-IV: Management Accounting.

Learning outcome:

Upon completion of this course, students will be able to:

- Understand concepts of Management Accounting.
- Demonstrate Accounting compliance and planning in financial statements.

Paper-V: Financial Markets and Services.

Learning outcome:

Upon completion of this course, students will be able to:

- Gather knowledge of Issues in Primary & Secondary Markets & about the various Financial Services
- Understand the difference between Traditional & Modern Financial Services.

Paper-VI: BBA Practicals.

Learning outcome:

Upon completion of this course, students will be able to:

- Gain knowledge of business practices and processes.
- Analyze, evaluate and interpret data practically for the situations at the industry, business and individual levels

III BBA- VI SEMESTER

Paper-I: Business Strategy.

Learning outcome:

Upon completion of this course, students will be able to:

- Understand the basics of the how organizations are managed, with a special focus on the role played by a business firm's strategy.
- Assess or predict business performance based on the detailed analysis of a specific problem, case or company.

Paper-II: International Business.

Learning outcome:

Upon completion of this course, students will be able to:

- Understand International Business in a multicultural world.
- Acquire knowledge about the impact of various economic, legal, cultural, geographical, and political systems on international business.

Paper-III: Taxation –II.

Learning outcome:

Upon completion of this course, students will be able to:

- Understand the tax concepts and calculate Total Income & Tax Liability.
- Identify and explain the self-assessment system of tax administration.

Paper-IV: Computerized Accounting through Tally.

Learning outcome:

Upon completion of this course, students will be able to:

- Understand the accounting concept, tools and techniques influencing business organization.
- Use accounting and business terminology.
- Explain the objective of financial reporting and related key accounting assumptions and principles**.**

Paper-V: Advertising & Media Management.

Learning outcome:

Upon completion of this course, students will be able to:

- Gain an understanding of advertising and sales promotion practices.
- Prepare promotional and advertising campaigns, for projects, assignments, and tests.

Paper-VI: Logistics & Supply Chain Management.

Learning outcome:

Upon completion of this course, students will be able to:

- Address LSCM problems in a holistic approach by taking into account general management concepts, human resources, environmental concerns, and quality, technological and economic aspects.
- Prepare students for career opportunities in logistics.

Paper-VII: Self Study. Marketing of Banking Services

Learning outcome:

Upon completion of this course, students will be able to:

- Gretna outlook of how banking sector work on day-to-day basis.
- Understand the fundamentals of banking as applicable on individuals and organizations within the larger economic system.

B.Voc(Web Technology and Multimedia)

B.Voc(Web Technology and Multimedia)

Programme Outcomes (POs)

- **PO1:** Acquire knowledge in Website designing and Multimedia concepts to create new websites and models in their day-to-day life.
- **PO2:** Graduates attain full practical knowledge in web site design, Graphic Design related models as per the requirement of the industries.
- **PO3:** Graduates develop critical thinking skills to identify, analyze and solve problems of their core areas using modern tools and fine art techniques.
- **PO4:** Graduates apply their knowledge by combining their software skills in a project .

- **PO5:** Graduates develop lifelong learning skills with updated softwares towards their defendable development.
- **PO6:** Graduates gain the communication knowledge for interacting with the industrial persons, clients, and for script writing.
- **PO7:** Apply ethical, moral and social values in personal and professional life leading to highly cultured and civilized society.
- **PO8:** Ability to work effectively as an individual or as a member or Team leader in diverse teams and in multidisciplinary environs.

Programme Specific Outcomes:

PSO1: Students will learn the new techniques in designing the websites. So that they can able to develop the websites by their own in easy and efficient way.

PSO2: Students learn many of the Multimedia techniques in designing Interiors and Exteriors. They can easily develop them in 3D.

PSO3: Students learn to write scripts and will know the techniques of shooting and editing as Art Director.

PSO4: Students learn communication skills so that they can easily adopt to any environment.

PSO5: Students will learn the human values and ethics to mingle in the society.

PSO6: Students gain knowledge on Analytical skills so that they can attend the competitive exams in their future.

Community College Course

Vocational courses

Programme outcomes in **Iets**

- ✓ To motivate and develop interest in computer skills.
- ✓ To create sense of achievement in updating themselves with the latest software Technologies.
- ✓ Providing Internship programmes to the students to acquire more practice knowledge on the subjects.

Programme outcomes in Fashion Design

- ✓ To captivating designer expertise.
- ✓ Brainstorming thoughts for garments production.
- ✓ Enhancing designer world with marketing knowledge.

- ✓ Viewing the thought as a result in Fashion show.

Course Outcomes in **FD**

DIT1- Computer fundamentals & English Typing Skills

- Identify the parts of the computer system.
- Adequately explain functioning of computer components.
- Explain the process of problem solving using computer
- Design an algorithmic solution for a given.
- Explain role of Operating system in computer system and applications of computer networks.
- Different Networks
- What is Internet
- Using of Internet

DIT_2 – Ms – Office

- Create documents using MS Word
- Develop Style sheets and Lookup tables.
- Create slides and animation effect for presentation
- Create database and storing data in database
- Select different tables basing on the query
- Create outlook and basic usage of MS Outlook

DIT_3 – Photoshop

- Identify and describe the major function s of Photoshop CS3
- Work and manipulate images
- Resize and Crop images
- Work with basic selections
- Create, edit, Delete and manage Layers.
- Paint.
- Retouch photos.
- Correct Colors.

DIT_4 – Internet Skills and Outlook

- Be able to access the Internet, Worldwide Web, as well as use Internet directories and search engines, and locate WWW addresses.

- Be able to find and evaluate information on the Web
- Learn basic computer and keyboarding related vocabulary in English
- Learn the basics of e – mail, such as sending, forwarding and receving mail, attaching documents, creating mailboxes, filters, and address books.
- Learn basic word processing skills with Microsoft Word, such as text input and formatting, editing, cut, copy and paste, spell check, margin and tab controls, keyboard shortcuts, printing, as well as how to include some graphics such as pictures and charts.
- Develop an intuitive sence of how computers work and how theycan be used to make your academic work more efficient.

PFS$_6$ – Professional Skills

- Understand professional writing by studying management communication contexts and genres, researching , and constructing finished professional workplace documents.
- Understand the ethical, international, social, and professional constraints of audience, style, and content for writing situations of an organization, and between organizations, or between an Organization and the public.

DIT$_8$ – Page maker & Telugu Typing

- At the end of the course the participant will
- Create Documents and Templates, add text into documents using various
- Methods, and apply different formatting styles to characters and paragraphs.
- Import graphics, create objects using various tools, add effects to objects
- Create a book and export it into PDF
- Multipage Layout design

DIT$_9$ – Ms- Office-II

- Insert or delete a worksheet in MS Excel file
- Identify cells in a worksheet by their names
- Enter and format data
- Perform simple arithmetic calculations directly in a cell as well as by referring to anther cell
- Perform operations on a whole column or a row
- Use absolute and relative references to refer to cells or cell ranges
- Use Excel functions to calculate mean, median, standard deviation, minimum and maximum values

- Create simple graphs and charts
- Create frequency tables using pivot table functions in Excel.

DIT_{10} - Corel Draw and Illustrator

- This Course level will equip students with the basic knowledge of CorelDraw and Illustrator Graphics suite
- By the end of the course, participants will be familiar with the Corel Draw workspace tools, panels, basic techniques and gain an insight into the techniques of creating and manipulating vector (design), shapes and color fills.

CRS_{13}- Core Skills

- The main objective of this course is to have a good knowledge in Aptitude.
- This course helps them to be ready for any competitive exams.

Community College Course

DIPLOMA IN FASHION DESIGNING

DFD_1- FUNDAMENTALS OF DESIGN

- Identifying the classification of Design.
- Understanding the concepts of art elements.
- Application of color concepts in dress designing.
- Principles of art- Application in designing a garment.

DFD_2- FASHION DRAWING

- Pencil sketching
- Creating textures with different sketching mediums.
- Drawing heads, hands, arms, legs and feet in different angles
- Proportion study- 8, 10, 12.5 headed fashion figures
- Knowing of fashion details

DFD_3- PATTERN MAKING

- Taking a body measurements for construction of garment
- Identifying the tools used for drafting
- Drafting a basic blocks for development of bodice parts.
- Preparing the patterns such as –
    - Romper
    - Frock
    - Saree Petticoat

- Salwar and Kameez
- Blouse
- Skirts

DFD_4- FUNDAMENTALS OF APPAREL CONSTRUCTION

- Maintenance of Sewing machine, parts and functions
- Identifying the tools used for apparel construction
- Preparing the small samples of garment details such as:
    - Basic hand stitches
    - Seams and seam finishes
    - Fullness
    - Plackets
    - Necklines
    - Sleeves
    - Collars
    - Pockets

DFD_6- BASIC COMPUTER SKILLS

- Identifying the parts of the computer system.
- Adequately explain functioning of computer components
- Different networks
- Create document using MS-Word
- Develop style sheets and lookup tables.
- Create slides and animation effect for presentation
- create outlook and basic usage of MS Outlook
- accessing the internet, worldwide web
- able to find and evaluate information on the web
- Learn basic computer and keyboarding related vocabulary in English
- Learn the basics of e-mail, such as sending, forwarding and receiving mail, attaching documents, creating mailboxes, filters and address books
- Learn basic word processing skills with Microsoft Word, such as tect input and formatting, editing, cut, copy and paste, spell check, margin and tab controls, keyboard shortcuts, printing, as well as how to include some graphics such as pictures and charts.

DFD_8- SURFACE DESIGN

- Detailed study of motif development, enlarging and reducing
- Applying different types of embroidery stitches on dress
- Preparing a painting and printing samples such as stencil print, batik print, block print, vegetable print, tie & dye, brush techniques etc.,
- Developing a different patterns in lace making like crochet, knitting etc.,

DFD_9 – FASHION ILLUSTRATION

- Designing the accessories
- Drawing different types of costumes like party wear, daily wear, executive wear, night wear for children's and teenage girls.
- Dress designing for free hand figures with different mediums.
- Creating different rendering techniques or texture techniques by using thread, cloth, comb, brush, and any other elements.

DFD_{10}- FABRIC CONCEPTS

- Weaving the different types of weaves like plain, ribbed, herringbone etc., with papers to know the variations.
- Collecting the different types of fabrics to know the market upcoming styles.
- Identification of different types of fabrics by the touch, look, feel and other tests.
- Detailed study of fabric drapes and folds.
- Preparing a personal portfolio on a different theme.

DFD_{11}- APPAREL CONSTRUCTION

- Explain the preparation of fabric before cutting
- Developing awareness on principles of good fit
- Constructing the following garments
    - Frock
    - Romper
    - Salwar & kameez
    - Saree petticoat
    - Blouse
    - Skirts
- The garments should be from the point of designing part followed by fabric selection, and style of constructing garments should be vary from one student to another.

GENERAL AND COMMUNICATIVE ENGLISH

- Demonstrate an understanding of the relevance of language and composition in different contexts
- Engage constructively in the challenges of writing and reading
- Develop appropriate content to support claims in expository, persuasive and critical writing.
- Edit to meet readers expectations for clarity and grammatical correctness

LIFE COPING SKILLS

- Giving insights on controlling anger, stress management and developing elf confidence for a positive healthy living.

- Deal effectively with the demands and challenges of life.
- the subject varies greatly depending on social norms and community expectations but skills that function for well-being and aid individuals to develop into active and productive members of their communities are considered as life skills
- Teaching and prevention of certain behaviors, they can be relatively ineffective.

Community College Outcomes:

Programme specific outcomes in **Iets**

- ✓ To motivate and develop interest in computer skills.
- ✓ To create sense of achievement in updating themselves with the latest software Technologies.
- ✓ Providing Internship programmes to the students to acquire more practice knowledge on the subjects.
- ✓ Course Outcomes

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- What is Internet
- Using of Internet

DIT_2 – Ms – Office

- Create documents using MS Word
- Develop Style sheets and Lookup tables.
- Create slides and animation effect for presentation
- Create database and storing data in database
- Select different tables basing on the query
- Create outlook and basic usage of MS Outlook

DIT_3 – Photoshop

- Identify and describe the major function s of Photoshop CS3
- Work and manipulate images
- Resize and Crop images
- Work with basic selections
- Create, edit, Delete and manage Layers.
- Paint.

- Retouch photos.
- Correct Colors.

DIT_4 – Internet Skills and Outlook

- Be able to access the Internet, Worldwide Web, as well as use Internet directories and search engines, and locate WWW addresses.
- Be able to find and evaluate information on the Web
- Learn basic computer and keyboarding related vocabulary in English
- Learn the basics of e – mail, such as sending, forwarding and receving mail, attaching documents, creating mailboxes, filters, and address books.
- Learn basic word processing skills with Microsoft Word, such as text input and formatting, editing, cut, copy and paste, spell check, margin and tab controls, keyboard shortcuts, printing, as well as how to include some graphics such as pictures and charts.
- Develop an intuitive sence of how computers work and how theycan be used to make your academic work more efficient.

PFS_6 – Professional Skills

- Understand professional writing by studying management communication contexts and genres, researching , and constructing finished professional workplace documents.
- Understand the ethical, international, social, and professional constraints of audience, style, and content for writing situations of an organization, and between organizations, or between an Organization and the public.

DIT_8 – Page maker & Telugu Typing

- At the end of the course the participant will
- Create Documents and Templates, add text into documents using various
- Methods, and apply different formatting styles to characters and paragraphs.
- Import graphics, create objects using various tools, add effects to objects
- Create a book and export it into PDF
- Multipage Layout design

DIT_9 – Ms- Office-II

- Insert or delete a worksheet in MS Excel file
- Identify cells in a worksheet by their names
- Enter and format data
- Perform simple arithmetic calculations directly in a cell as well as by referring to anther cell
- Perform operations on a whole column or a row
- Use absolute and relative references to refer to cells or cell ranges
- Use Excel functions to calculate mean, median, standard deviation, minimum and maximum values

- Create simple graphs and charts
- Create frequency tables using pivot table functions in Excel.

DIT_{10} - Corel Draw and Illustrator

- This Course level will equip students with the basic knowledge of CorelDraw and Illustrator Graphics suite
- By the end of the course, participants will be familiar with the Corel Draw workspace tools, panels, basic techniques and gain an insight into the techniques of creating and manipulating vector (design), shapes and color fills.

CRS_{13}- Core Skills

- The main objective of this course is to have a good knowledge in Aptitude.
- This course helps them to be ready for any competitive exams.

DFD_1- FUNDAMENTALS OF DESIGN

- Identifying the classification of Design.
- Understanding the concepts of art elements.
- Application of color concepts in dress designing.
- Principles of art- Application in designing a garment.

DFD_2- FASHION DRAWING

- Pencil sketching
- Creating textures with different sketching mediums.
- Drawing heads, hands, arms, legs and feet in different angles
- Proportion study- 8, 10, 12.5 headed fashion figures
- Knowing of fashion details

DFD_3- PATTERN MAKING

- Taking a body measurements for construction of garment
- Identifying the tools used for drafting
- Drafting a basic blocks for development of bodice parts.
- Preparing the patterns such as –
    - Romper
    - Frock
    - Saree Petticoat
    - Salwar and Kameez
    - Blouse
    - Skirts

DFD_4- FUNDAMENTALS OF APPAREL CONSTRUCTION

- Maintenance of Sewing machine, parts and functions
- Identifying the tools used for apparel construction
- Preparing the small samples of garment details such as:
    - Basic hand stitches
    - Seams and seam finishes
    - Fullness
    - Plackets
    - Necklines
    - Sleeves
    - Collars
    - Pockets

DFD_6- BASIC COMPUTER SKILLS

- Identifying the parts of the computer system.
- Adequately explain functioning of computer components
- Different networks
- Create document using MS-Word
- Develop style sheets and lookup tables.
- Create slides and animation effect for presentation
- create outlook and basic usage of MS Outlook
- accessing the internet, worldwide web
- able to find and evaluate information on the web
- Learn basic computer and keyboarding related vocabulary in English
- Learn the basics of e-mail, such as sending, forwarding and receiving mail, attaching documents, creating mailboxes, filters and address books
- Learn basic word processing skills with Microsoft Word, such as tect input and formatting, editing, cut, copy and paste, spell check, margin and tab controls, keyboard shortcuts, printing, as well as how to include some graphics such as pictures and charts.

DFD_8- SURFACE DESIGN

- Detailed study of motif development, enlarging and reducing
- Applying different types of embroidery stitches on dress
- Preparing a painting and printing samples such as stencil print, batik print, block print, vegetable print, tie & dye, brush techniques etc.,
- Developing a different patterns in lace making like crochet, knitting etc.,

DFD_9 – FASHION ILLUSTRATION

- Designing the accessories
- Drawing different types of costumes like party wear, daily wear, executive wear, night wear for children's and teenage girls.
- Dress designing for free hand figures with different mediums.

- Creating different rendering techniques or texture techniques by using thread, cloth, comb, brush, and any other elements.

DFD_{10}- FABRIC CONCEPTS

- Weaving the different types of weaves like plain, ribbed, herringbone etc., with papers to know the variations.
- Collecting the different types of fabrics to know the market upcoming styles.
- Identification of different types of fabrics by the touch, look, feel and other tests.
- Detailed study of fabric drapes and folds.
- Preparing a personal portfolio on a different theme.

DFD_{11}- APPAREL CONSTRUCTION

- Explain the preparation of fabric before cutting
- Developing awareness on principles of good fit
- Constructing the following garments
    - Frock
    - Romper
    - Salwar & kameez
    - Saree petticoat
    - Blouse
    - Skirts
- The garments should be from the point of designing part followed by fabric selection, and style of constructing garments should be vary from one student to another.

GENERAL AND COMMUNICATIVE ENGLISH

- Demonstrate an understanding of the relevance of language and composition in different contexts
- Engage constructively in the challenges of writing and reading
- Develop appropriate content to support claims in expository, persuasive and critical writing.
- Edit to meet readers expectations for clarity and grammatical correctness

LIFE COPING SKILLS

- Giving insights on controlling anger, stress management and developing elf confidence for a positive healthy living.
- Deal effectively with the demands and challenges of life.
- the subject varies greatly depending on social norms and community expectations but skills that function for well-being and aid individuals to develop into active and productive members of their communities are considered as life skills
- Teaching and prevention of certain behaviors, they can be relatively ineffective.