

SCHOOL OF PHYSIOTHERAPY

Programme outcomes and course outcomes

PROGRAMME OUTCOMES:

- It is a rewarding career in field of medical science.
- Physiotherapy or Physical Therapy is an allied health profession that helps people increase, maintain or restore their physical mobility, function and strength.
- BPT course is a full-time course. Duration of the course is 4 years and six months followed by compulsory six months rotatory internship in leading hospitals. The four years include theoretical classes and clinical exposure in multi-specialty hospitals.
- After completing the course, a student can opt for working in any hospital or can run their own clinical setups. They can go for higher studies after BPT.
- Various specialization options are available for students in the field of physiotherapy orthopedics, neurology, cardiopulmonary, sports, pediatrics, gynecology, musculoskeletal etc.

COURSE OUTCOMES:

BPT 1ST YEAR

1. **ANATOMY (AUBPT) -101:** It focus on structural components of various body systems at microscopic and macroscopic level. Provides students with the working knowledge of the structure of the human body which is essential foundation for their clinical skills.
2. **PHYSIOLOGY (AUBPT-102) :** It deals with the study of functioning of various body systems. It gives students an in depth knowledge of fundamental reactions in human body.
3. **BIOCHEMISTRY (AUBPT-103) :** It focus on chemical components and various biochemical reactions occurring in different body systems
4. **ELECTROTHERAPY-I (AUBPT-104) :** It focus on basics of electro-physics and some electrical modalities used for therapeutic purpose. It helps students to make a clinical decision knowing the condition, techniques, indication and contraindication, dosage, etc in various conditions.
5. **EXERCISE THERAPY-I (AUBPT-105) :** It focus on basics of therapeutic exercises and their applications
6. **ENGLISH (AUBPT-106) :** It focus on improving vocabulary and communication skills
7. **COMPUTER APPLICATION (AUBPT-107):** It focus on learning basic computer programs and their uses

COURSE OUTCOMES:

BPT 2ND YEAR

1. **PATHOLOGY &MICROBIOLOGY(AUBPT-201) :** It focus on nature and causes of disease and various micro organism responsible for disease
2. **PHARMACOLOGY (AUBPT-202) :** It focus on different classes of drugs, their action, uses and adverse effects on various systems of body.
3. **EXERCISE THERAPY-II (AUBPT-203) :** It focus on various therapeutic exercises and their clinical applications

4. **Electrotherapy-II** (AUBPT-204) : It focus on various electrical modalities and their uses in different conditions.
5. **BIOMECHANICS** (AUBPT-205) : study the basic concepts of human movement & application of various biomechanical principles in evaluation & treatment of various disorders
6. **SOCIOLOGY** (AUBPT-206) : helps with basic social concepts, principles, process in relation to individual, family & community & help students while assessment & treatment.
7. **PSYCHOLOGY** (AUBPT-207) : Helps in understanding various behavioral patterns of various age groups & helps in developing communication & interacting skills.

COURSE OUTCOMES:

BPT 3rd YEAR

1. **ORTHOPEDICS** (AUBPT-301): Understanding orthopedic conditions causing disability (etiology, clinical features, investigations & management)
2. **GENERAL MEDICINE** (AUBPT-302): General understanding of disease providing knowledge about relevant aspects of general medicine
3. **PT IN ORTHO-CONDITION** (AUBPT-303): Understanding orthopedic conditions causing disability (etiology, clinical features, investigations & Physiotherapy management)
4. **PT IN MEDICAL-CONDITION** (AUBPT-304): General understanding of disease providing knowledge about relevant aspects of general medicine & physiotherapy management
5. **RESEARCH METHODOLOGY AND BIO- STATISTICS** (AUBPT-305): Helps the student to understand the basic principles of research & methods applied to draw the interferences from research findings

COURSE OUTCOMES:

BPT 4th YEAR

1. **GENERAL SURGERY** (AUBPT – 401) : Understanding various conditions & their surgical management, complications.
2. **NEUROLOGY** (AUBPT – 402): Understanding neurological conditions causing disability (etiology, clinical features, investigations & management)
3. **PEDIATRICS & GERIATRICS** (AUBPT – 403): Understanding various conditions in children & elderly respectively, causing disability (etiology, clinical features, investigations & management)
4. **PT IN NEUROLOGICAL CONDITIONS** (AUBPT – 404): General understanding of disease providing knowledge about relevant aspects of general medicine & physiotherapy management
5. **PT IN SURGICAL CONDITIONS** (AUBPT – 405) : Understanding various conditions following surgery and their pre & post operative management
6. **PRINCIPLE OF REHABILITATION** (AUBPT – 406) : Learning skills applied in clinical situation of health & disease & its preventions
7. **APPLIED THERAPEUTICS** (AUBPT – 407): It focus on evidence based therapeutic techniques applied for various conditions

COURSE OUTCOME OF BAMS

BAMS 1st Year	
PADARTHA VIGYAN AND AYURVED ITIHAS	It explains the fundamental principles of Ayurveda
SANSKRIT	In Ayurveda it is studied because there is extensive use of this in Ayurvedic literature
KRIYA SHARIR	It explores the normal functions of human organs
RACHANA SHARIR	It deals with the study of human body, it is important for operative procedures and practices
MAULIK SIDDHANT AVUM ASTANG HRIDYA	Root source for Ayurvedic philosophy and protocol providing clear guidelines in all aspects of health
BAMS 2nd Year	
DRAVYAGUNA VIGYAN	It explains the versatile action of Ayurvedic drugs
ROG-NIDAN	It contains many elements for diagnosis and prognosis of diseases and it also gives vast knowledge about examination of diseases and patients
RASASHATRA	It basically deals with the preparation of Ayurvedic medicines using herbomineral drugs, main objective is to prepare various Ayurvedic formulations so as to impart practical knowledge to students
CHARAK SAMHITA P	It explains the basic fundamentals of Ayurvedic literature
BAMS 3rd Year	
AGADTANTRA	Deals with the study of poison, its therapeutic concern and medico-legal importance
SWASTHAVRITTA & YOGA	It highlights the importance of maintaining of healthy life by adopting principles of a daily regimen, seasonal regimen and ethical regimen to combat the diseases associated with lifestyle changes.
PRASUTI TANTRA EVUM STRI ROGA	It deals with the delivery of child and diseases pertaining to female reproductive system
KAUMARBHRITYA PARICHAYA	This branch deals with neonatal care, infant feeding, diet for newborn, daily and seasonal regimen and also deals with diseases and disorders relating to children including nutrition and immunization of children
CHARAK SAMHITA U	It explains the basic fundamentals of Ayurvedic treatment regimens
BAMS 4th Year	
KAYACHIKITSA	It involves general principles and approaches related to the treatment procedure. It also offers health benefits in case of ageing or geriatrics health issues
PANCHKARMA	It deals with the purificatory procedures that helps in rejuvenating, revitalization, prevention and treatment of acute and chronic diseases.
SHALYA TANTRA	Deals with the surgical procedures with less complications, minimum blood loss and least reoccurrence of disease like Kshar Sutra Karma in anorectal region
SHALAKYA TANTRA	It deals with the diseases above the clavicle i.e. concerned with disorders of ear, nose, throat, eye, dental, head & neck. It includes various preventive measures, therapeutic measures and surgical methods also.
RESEARCH METHODOLOGY AND MEDICAL STATISTICS	Specific procedures/techniques used to identify, select, process and analyse information about the topic

COURSE OUTCOME OF D.PHARMACY (AYU)	
D.Pharmacy (Ayu) 1s Year	
RASASHATRA AND BHAISAJYA KALPANA-I	It basically deals with the preparation of Ayurvedic medicines using herbomineral drugs, main objective is to prepare various Ayurvedic formulations so as to impart practical knowledge to students
PRATHMIK UPCHAR AND RUGNPARICHARYA	It deals with the management of patients by the help of emergency medicines and equipments. It also provides the complete knowledge about the health, its maintenance by following daily regimen, seasonal regimen, and prevention of diseases
SHARIR RACHANA	It deals with the study of human body, it is important for operative procedures and practices
DRAVYAGUNA-I	It explains the versatile action of Ayurvedic drugs
AYURVEDA SIDDHANT AND ITIHAS	It explains the fundamental principles of Ayurveda and gives history of Ayurveda literature
D.Pharmacy (Ayu) 2nd Year	
KRIYA SHARIR	It explores the normal functions of human organs
DRAVYAGUNA-II	It explains the versatile action of Ayurvedic drugs
AYURVEDIC PHARMACEUTICS INCLUDING HOSPITAL AND CLINICAL PHARMACY	It gives knowledge about the preparation of medicines and practicals on drugs manufacture
RASASHATRA AND BHAISAJYA KALPANA-II	It basically deals with the preparation of Ayurvedic medicines using herbomineral drugs, main objective is to prepare various Ayurvedic formulations so as to impart practical knowledge to students
AYURVEDA PARICHARYA INCLUDING ROGA NIDAN AND CHIKITSA	It contains many elements for diagnosis and prognosis of diseases and it also gives vast knowledge about examination of diseases and patients



BACHELOR OF SCIENCE IN
MEDICAL LAB TECHNOLOGY
(BSC-MLT)

Course Outcome

Programme Name: B.Sc. Medical Laboratory Technology

Programme Objectives:

- To train students to work as full-fledged lab technologists capable of collecting and storing samples, analyzing them and creating reports based on the sample for further analysis by a doctor.
- To introduce students with elements of blood bank management, materials management, supply chain management as well as lab information system management.
- To train students to clean and maintain lab equipment, manage biomedical.

Programme Outcome (POs)

- Professionally competent to perform basic laboratory test and analyse them so as to choose an appropriate course of action.

Programme Specific Outcomes (PSOs)

- Students will acquire necessary knowledge and skills to work as full-fledged lab technologists capable of collecting and storing samples, analyzing them and creating reports based on the sample for further analysis by a doctor.
- Students will have knowledge of elements of blood bank management, materials management, supply chain management as well as lab information system management.
- Students will be skilled to clean and maintain lab equipment, manage biomedical.
- Professionally competent – Possess commitment to lifelong learning
- Exhibit sense of commitment to the ethical and human aspects of patients care.
- Recognize the role of the clinical laboratory technician in the assurance of quality health care.

Semester-1

Human Anatomy

Course Code: BSCMLT 101

COURSE OUTCOMES:

- The prime concern of this syllabus is to learn the terminology of the subject and basic knowledge of cells & tissues and to understand anatomy of human body.
- This subject will develop an understanding of the structure and function of organs and organ systems in normal human body.

Human Physiology-I
Course Code: BSCMLT 102

Course Outcomes
Course Code: BS

- The prime concern of this syllabus is to integrate basic knowledge of cells, tissues, blood, physiological functions and diseases of system included in syllabus.
- To be able to perform the tests or techniques to evaluate the functions of organ systems
- To be efficient to handle the equipment related to these tests.
- To be able to derive, analyse, interpret the test results
- To be able to differentiate the normal and abnormal test results

Basic Haematology and Clinical Pathology
Course Code: BSCMLT 103

COURSE OUTCOMES:

- The curriculum of haematology aims to prepare the students in basic understanding of the composition of blood, waste management, instrumentation, techniques and methods of estimating different parameters.
- Describe the rationale & principles of technical procedures of diagnostic laboratory tests.
- Interpret diagnostic laboratory tests & correlate with clinical & Morphological features of diseases.
- Perform simple bedside tests on blood, urine and other biological fluid samples

Fundamentals of Biochemistry-I
Course Code: BSCMLT 104

COURSE OUTCOMES:

- This syllabus has been formulated to impart basics knowledge of biochemistry, apparatus, units, equipment, and volumetric analysis in the Clinical Biochemistry.
- At the end students should able to understand factors affecting enzyme activity and their biological importance; enzyme inhibition and its clinical significance. enzymes & is enzyme and their diagnostic uses
- Able to understand principles of various instruments involved in lab investigations.
- pH homeostasis and water electrolyte balance & related disorders

Preventive Medicine & Community Health Care
Course Code: BSCMLT 105

COURSE OUTCOMES:

- This curriculum impart the knowledge of various types of diseases and functioning of various programmes.
- Demonstrate compassionate care at the individual, family, group, organization, community and population levels
- Recognize and respond to the ethical dimensions in public health and relevant clinical decision-making
- Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony and advising governments

Semester II

Diagnostic Molecular Biology
Course Code: BSCMLT 201

COURSE OUTCOMES:

- This syllabus provides a basic introduction of molecular biology and its techniques like PCR, RTPCR etc.
- Basic knowledge of structure and functions of major bio-molecules will make the students to understand and implement the acquired knowledge in future

Human Physiology-II
Course Code: BSCMLT 202

COURSE OUTCOMES:

- This subject imparts the knowledge of the structure and function of included organs and organ systems in normal human body.
- Conduct of laboratory investigations using safe, environmentally appropriate, and ethical practices.
- Describe the characteristics of living things that distinguish them from non-living things

Clinical Endocrinology & Toxicology
Course Code: BSCMLT 203

COURSE OUTCOMES:

- This paper is framed to provide basic knowledge of hormones & toxic substances with their determination techniques as well as related disorders.
- Have the basic understanding and pathophysiological mechanisms of various diseases.
- Will understand the mechanism of progression of the disease pathology and strategies for intervention.
- Will have an idea of worldwide epidemiology of the diseases.

Fundamentals of Biochemistry -II
Course Code: BSCMLT 204

COURSE OUTCOMES:

- This paper is extension of BML-S-104 and which aims at understanding the chemical properties of the bio molecules, their functions and biomedical importance.
- Student will understand and demonstrate fundamental biochemical principles, such as the structure/function of biomolecules, metabolic pathways, and the regulation of biological/biochemical processes

Fundamentals of Computer
Course Code: BSCMLT 205

COURSE OUTCOMES:

- The objective of this course is to acknowledge, appreciate and effectively incorporate the basic of computers with its applications.
- Analysing problems, and designing and implementing algorithmic solutions.
- Solving problems properly, achieving an implementation that is correct, effective and efficient.
- Using computers at user level, including operative systems and programming environments.
- Knowledge of computer equipment, including both hardware and software.
- Identifying information needs to solve problems, recovering information and applying it to the resolution

SEMESTER III

Clinical Heamatology
Course Code: BSCMLT 301

COURSE OUTCOMES:

- This subject imparts the knowledge of the structure and function of included organs and organ systems in normal human body.
- Demonstrate an understanding of the components of human blood and characteristics, functions, and abnormalities and disease states of each.
- Demonstrate proficiency in the skills necessary to perform blood cell counts, and evaluation of blood elements within stated limits of accuracy.
- Demonstrate compliance with OSHA safety regulations for blood –borne pathogens.
- Determine suitability of hematology specimens and dispose of them in the appropriate biohazard containers.

Fundamentals of Microbiology-I
Course Code: BSCMLT 302

COURSE OUTCOMES:

- Learn the concept of sterilization processes and apply them in sterilization of different media.
- Acquire skills to isolate an organism using different technique and to Know various Culture media and their applications.
- Attain the practical skills in microscopy and their handling techniques and staining procedures
- Identification of pathogens by standard techniques and methods of culturing preservation and maintenance of microorganisms

Immunology & Serology

Course Code: BSCMLT 303

COURSE OUTCOMES:

- To promote critical thinking among students
- To provide students with a foundation in immunological processes
- To provide students with knowledge on how the immune system works building on their previous knowledge from biochemistry, genetics, cell biology and microbiology
- Be able to clearly state the role of the immune system
- Be able to compare and contrast the innate versus adaptive immune systems

Histopathology & Histotechniques-I

Course Code: BSCMLT 304

COURSE OUTCOMES:

- Define all the terms given in bold
- Outline key features of a number of pathological processes
- Relate the histological appearance of affected tissues to the underlying pathology
- Recognise the histological appearance of a number of pathological tissues
- Understand how sections can be photographed, presented and reported.

Environmental Sciences

Course Code: BSCMLT 305

COURSE OUTCOMES:

- Master core concepts and methods from ecological and physical sciences and their application in environmental problem solving.
- Master core concepts and methods from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions.
- Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.
- Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales.
- Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes.

Clinical Biochemistry
Course Code: BSCMLT 401

COURSE OUTCOMES:

- Students will be able to clinically assess the laboratory indicators of physiologic conditions and diseases
- Students will know the biochemical and molecular tools needed to accomplish preventive, diagnostic, and therapeutic intervention on hereditary and acquired disorders

Fundamentals of Microbiology-II
Course Code: BSCMLT 402

COURSE OUTCOMES:

- To understand history, relevance of microbiology and classification of bacteria
- To understand the working of various microscopes and their application
- To gain knowledge of various (physical and chemical) methods of control of microorganisms and safety measures to be followed while handling microbes
- To understand the structure of bacterial cells, its organelles, physiology and behavior
- To learn different methods of staining bacteria
- To demonstrate proficiency in handling aseptic bacteriological specimens

Advance Diagnostic Techniques
Course Code: BSCMLT 403

COURSE OUTCOMES:

- students would be able to detect hormones and toxic substances in blood samples and also understand the basis of endocrine disorders.
- To provide basic knowledge of hormones & toxic substances with their determination techniques as well as related disorders

Histopathology & Histotechniques-II
Course Code: BSCMLT 404

COURSE OUTCOMES:

- Students will be able to receive process and preserve tissue samples (routine and special).
- They will be able to handle different automated instruments used for above tests

General Pathology
Course Code: BSCMLT 405

COURSE OUTCOMES:

- The student will be able to devise likely diagnoses from clinical scenarios by recognizing key manifestations of congenital, hemodynamic, inflammatory, infectious, metabolic, environmental, and neoplastic diseases.
- The student will be able to apply knowledge of pathology's role in the diagnosis, staging, and management of disease.
- The student will be able to classify diseases of various body systems and how they manifest clinically and histopathologically.

Immunoheamatology & Blood Banking
Course Code: BSCMLT 501

COURSE OUTCOMES:

- Developing a working knowledge of the principles and procedures of blood bank testing.
- Producing accurate, skilled clinical laboratory workers with strong ethical and professional values.
- Promoting respect and understanding of allied health professionals through renewed understanding of the clinical laboratory technician's role as a member of the allied health care team

Clinical Enzymology & Automation
Course Code: BSCMLT 502

COURSE OUTCOMES:

- Describe plasma enzymes
- Explain about the assessment of cell damage and proliferation
- Describe the role of enzymes in health and diseases

Parasitology
Course Code: BSCMLT 503

COURSE OUTCOMES:

- Distinguish the individual parasitic infectious diseases
- Distinguish the individual helminthic infectious disease
- Explain the methods used for diagnosis and treatment of helminthic infectious diseases
- Explain the methods used for diagnosis and treatment of nematodal infectious diseases

Diagnostic Cytology
Course Code: BSCMLT 504

COURSE OUTCOMES:

- Understanding and skills in practical work in the identification, classification of malignant and pre-malignant conditions in cell preparation in cytologic investigation of serous liquid, fine needle aspiration and other fields of application in cytology.
- The practical parts will focus on developing the ability to diagnose cell samples from clinical materials with microscope.

Principles of Laboratory Management
Course Code: BSCMLT 505

COURSE OUTCOMES:

- Understand the management of laboratory operations and processes.
- Understand how to manage teams in a laboratory.
- Have the ability to create a productive work environment with a basic understanding of leadership and change management.
- Have the ability to control costs and understand financial management.
- Understand the management of quality assurance in a laboratory

Clinical Virology
Course Code: BSCMLT 601

COURSE OUTCOMES:

- Explain viruses, fungi and parasites including their classification, morphology, and laboratory diagnosis and prevention measures
- Perform laboratory investigations for the diagnosis of infectious diseases caused by viruses, fungi and parasites
- Discuss various viral fungal and parasitic diseases of human.

Biostatistics & Research Methodology
Course Code: BSCMLT 602

COURSE OUTCOMES:

- Improve analytical and critical thinking skills through problem solving
- Understand the steps involved in statistical investigations
- Identify the fundamental idea and ethical
- approach to carry out original research in biology

B.Sc. B.Ed. (Courses Outcomes)

Semester-1st

Course Code: AUBSCED 101

General Hindi

Course Outcomes:

- छात्रों में भाषा को समझने तथा मूल्यांकन करने की दृष्टि बढ़ाना
- शब्द संरचना प्रक्रिया के प्रति छात्रों का ध्यानाकर्षण कराना
- छात्रों को प्रयोजनमूलक हिन्दी की व्यापकता से अवगत करवाना
- हिन्दी भाषा की व्यावहारिक उपयोगिता का परिचय देना

Course Code: AUBSCED 102

Trigonometry & Differential Calculus

Course Outcomes:

- To understand the topics on the expansions of trigonometric functions, hyperbolic functions, inverse circular, inverse hyperbolic, expansion of functions.
- To show how Trigonometry can be used to evaluate Calculus.
- To explain the distinction between a Trigonometry & Differential Calculus.

Course Code: AUBSCED 103

Mechanics

Course Outcomes:

- To compute basic quantities in linear and rotational mechanics
- To formulate, analyze and solve a multi-level problem in mechanics.
- To apply mathematical tools to mechanics.

Course Code: AUBSCED 104

Organic Chemistry

Course Outcomes:

Nucleophilic substitution reactions & their mechanism is of great interest for the students. The preparation of organometallic compounds & its uses gives many new syntheses. Acidic character of phenol & different named reactions has been explained to the students. Ether, epoxides, carbonyl compounds & carboxylic acids have been studied in details with their physical & chemical properties.

Course Code: AUBSCED 105

Diversity of Microbes and Cryptogams (Thallophyta)

Course Outcomes:

- Students will learn about the general characters of Cryptogams.
- Students will learn the basic concept of Botany.
- Students will gain knowledge about the plant diseases.

Course Code: AUBSCED 106

Animal Diversity Part-I

Course Outcomes:

As an outcome we are expecting the students will understand and learn the differences in the cellular organization of the organism at different levels and they will be able to write and draw the structure of various organisms.

Semester-2nd

Course Code: AUBSCED 201

Environmental Studies

Course Outcomes:

- To create awareness among students about environment protection. Course Outcomes
- Based on this course, the students will understand / evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn help in sustainable development.

Course Code: AUBSCED 202

Computer Fundamentals, Internet & MS-Office

Course Outcomes:

After studying this course, the students will be able to:

- Understand the fundamental hardware components that make up a computer's hardware and the role of each of these components.
- Understand the difference between an operating system and an application program, and what each is used for in a computer.
- Describe some examples of computers and state the effect that the use of computer technology has had on some common products.
- Be familiar with software application.
- Understand file management.

Course Code: AUBSCED 203

Partial Differential Equations

Course Outcomes:

- To acquaint the students with various mathematical techniques viz. variable separable method, Monge's form of solution, Classification and application of Partial Differential Equation.
- To learn the Nonlinear first order PDEs which arise in fluid dynamics, continuum mechanics and optics.

Course Code: AUBSCED 204

Electricity and Magnetism

Course Outcomes:

After completion of the course, students will be able to understand:

- The basic concept of electric field and potential and the method of their calculation using Gauss Law.
- Basics of dielectric polarization of matter, capacitor.
- The applications of magnetic field, ampere law etc.

Course Code: AUBSCED 205

Inorganic Chemistry

Course Outcomes:

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

- The Schrödinger equation which provides explanation about the origin of Quantum number, shape of atomic orbital.
- Student will learn the periodicity of elements in which they understand the effective nuclear charge, enthalpy, electronegativity required to understand trend in periodic table and predicting their chemical behavior.
- The course also provides a detail understanding of covalent, ionic bond.
- A basic understanding of metallic bond hydrogen bond.

Course Code: AUBSCED 206

Diversity of Microbes and Cryptogams
(Bryophyta, Pteridophyta and Paleobotany)

Course Outcomes:

- Students will learn about the general characters of Bryophyta.
- Students will learn the general characters of Pteridophyta
- Students will learn the basic concept of fossil Bryophyta through Geological time scale.

Course Code: AUBSCED 207

Animal Diversity Higher Non-Chordata

Course Outcomes:

The outcome will be in terms of understanding the body organization of different life forms in higher invertebrates and they will be able to explain the differences in the taxonomic characters of different phylum. Students can draw and write about the structure and functions of the cells.

Semester-3rd

Course Code: AUBSCED 301

Childhood and Development Years

Course Outcomes:

- Understand the meaning, nature and scope of educational psychology.
- Understand growth and development of the learner and its importance in the learning process.
- Understand the need and problems of adolescence.
- Identify educational needs of various types of children
- Understand concept of intelligence and personality, theories of intelligence and personality and their educational implications

Course Code: AUBSCED 302

Understanding Disciplines and Subjects

Course Outcomes:

- Understand the nature of discipline and school subjects.
- Differentiate between school subjects and curriculum.
- Integrate and apply concepts and theories in real classrooms

Course Code: AUBSCED 303

Language Across the Curriculum

Course Outcomes:

- Understand the nature, importance and use of Language.
- Acquaint with some latest methods and approaches for planning of successful language teaching.

- Identify and be sensitive to the proficiency, interests and needs of learners.
- Practice learner centered methods and techniques in the classroom.
- Use technology to enrich language teaching,
- Encourage continuous professional development.

Course Code: AUBSCED 304

English

Course Outcomes:

- Students will strengthen their ability to write academic papers, essays and summaries using the process approach.
- To recognize poetry from a variety of cultures, languages and historic periods.
- To understand and appreciate poetry as a literary art form.
- To analyze the various elements of poetry, such as diction, tone, form, genre, imagery, figures of speech, symbolism, theme, etc.

Course Code: AUBSCED 305

Real Analysis

Course Outcomes:

- To understand various limiting behaviour of sequences & series; limiting processes viz. continuity, uniform continuity; Sequence of real numbers, Tests and to enhance the mathematical maturity and to work comfortably with concepts.
- To understand the concepts of real in depth.
- To analyze the world of formal/abstract mathematics in which formal proofs and definitions are used in abundance.

Course Code: AUBSCED 306

Optics

Course Outcomes:

The students will be able to-

- To understand the fundamentals of physics like geometrical optics: diffraction, interferometer and holography etc.
- Get the idea of geometrical optics including the wave motion
- Provide basic and advanced concept of holography, interference and diffraction.

Course Code: AUBSCED 307

Physical Chemistry

Course Outcomes:

- Gaseous state will be studied taking ideal gas equation & modification of the ideal gas equation.
- Liquefaction of gases and critical temp, pressure & volumes for enhancing the interest of the student.
- The student will be able to find out a detailed knowledge of applicability of different states of matter in our day-to-day life.
- Explanation of the phenomenon of liquefaction of gases will be easier.

Course Code: AUBSCED 308

Plant Taxonomy and Embryology

Course Outcomes:

- Students will earn the systematic position of flowering plants.
- Students will be able to do identification of plants using scientific classification.
- Students will earn to describe the general leaf, flower and fruit characteristics of members of the Angiosperm family.

Course Code: AUBSCED 309

Chordata

Course Outcomes:

Upon the completion of the semester the students are expected to explain taxonomy of different classes and their difference. The physiology, structure and life histories of animals fall in this category.

Semester-4th

Course Code: AUBSCED 401

Learning and Teaching

Course Outcomes:

The students will be able to:

- Understand the nature, characteristics of learner and principles to make teaching-learning effective and productive.
- Explain the concept, nature of learning as a process and conditions of learning.
- Describe the Gagne's types of learning.
- Explain the concept, types and strategies to develop memory.
- Understand nature, causes, factors and strategies to minimize forgetting.
- Apply the knowledge and understanding of the learning process, principles and theories of learning with their educational Implications.
- Describe the concept, Importance and level of transfer of learning.

Course Code: AUBSCED 402

Drama and Art in Education

Course Outcomes:

The students will be able to:

- Understand the concept and importance of various arts in human life.
- Understand aims, objectives and principles of performing and visual arts.
- Appreciate Indian folk and visual and performing arts.
- Understand various methods and techniques of teaching creative arts.
- Understand the importance of visits in arts exhibitions and cultural festivals.

Course Code: AUBSCED 403

Text Reading and Reflections

Course Outcomes:

The students will be able to:

- Learn to read Newspaper Follow Radio, TV & Internet media critically and with understanding.
- Form and exchange viewpoints on political and social Issues.
- Distinguish fact, fiction and opinion in Newspaper articles.
- Develop teachers professionally and support their aspirations as teachers.

Course Code: AUBSCED 404

English

Course Outcomes:

- The students will be able to:
- Read and comprehend better.
- Communicate in English orally and in writing.

- Participate in role plays and mini-talks.
- Refer to the dictionary for synonymous expressions and grammar.

Course Code: AUBSCED 405

Group Theory

Course Outcomes:

- Understand the importance of algebraic properties with regard to working within various number systems.
- Extend group structure to finite permutation groups (Caley Hamilton Theorem).
- Generate groups given specific conditions.
- Symmetry using group theory.
- Understand the three major concrete models of Boolean algebra: the algebra of sets, the algebra of electrical circuits, and the algebra of logic.

Course Code: AUBSCED 406

Oscillations & Waves

Course Outcomes:

The students will be able to-

- Understand the fundamentals of physics like geometrical oscillations & wave motion, electromagnetic theory, wave optics: diffraction, interferometer and holography etc.
- Get the ideas of geometrical oscillations including the wave motion.
- Provide basic and advanced concept of holography, interference and diffraction.

Course Code: AUBSCED 407

Organic & Inorganic Chemistry

Course Outcomes:

- To develop an understanding of different approaches to types of chemical bonding.
- To develop an understanding of behaviour, chemical nature of various compounds likes ether, alcohol, Phenols, Proteins, Amino acids.
- Students will be able to appreciate general trends in the chemistry of elements of gr. 13, 14, 15, 16, 17 in Periodic table.

Course Code: AUBSCED 408

Plant Physiology and Metabolism

Course Outcomes:

- To make students capable of understanding basic physical processes occurring in plants.
- To impart Knowledge about plant growth regulators related to growth and development.
- To make student learn about the Mineral nutrition in plants.
- Students will learn about the physical processes occurring in plants.
- Students will learn the function of different plant growth regulators.

Course Code: AUBSCED 409

Evolution and Developmental Biology

Course Outcomes:

- To educate the students on the concept and theories of the evolution and embryology.
- The development of chick and placentation.
- The student will be able to explain and write the different theories given to explain the evolution during the time period like Darwinism and Lamarkism.
- To understand the developmental biology.

Semester-5th

Course Code: AUBSCED 501

Assessment for Learning

Course Outcomes:

The students will be able to;

- Understand the nature of assessment and its role in teaching-learning process.
- Understand the different perspectives of learning on assessment.
- Realize the need for school-based assessment in schools.
- Examine the contextual roles of different forms of assessment.
- Understand the different dimensions of learning and the related assessment procedures, tools and techniques

Course Code: AUBSCED 502

Gender, School and Society

Course Outcomes:

The students will be able to:

- Develop basic understanding and familiarity with key concepts: Gender bias, gender stereotype, empowerment, equity and equality, patriarchy, matriarchy, masculinity and feminism.
- Understand some important landmarks in connection with gender and education in the historical and contemporary perspective.
- Learn about gender issues in school curriculum, textual materials across discipline, pedagogical processes and its interaction with class, caste, religion and region.

Course Code: AUBSCED 503

Inclusive School

Course Outcomes:

The students will be able to:

- Understand the concept, nature and types of disabilities.
- Identify the characteristics and need, identification of different types of disabled children. Understand the concept, nature and approaches of inclusion in education.
- Understand and reflect on models of inclusion in education.
- Acquire knowledge and understanding about the provisions made for disabled children under SSA and RTE Act, 20096.
- Understand different pedagogical and assessment techniques for inclusion of CWSN.
- Employ different pedagogical approaches for inclusion of CWSN in regular schools.

Course Code: AUBSCED 504

English

Course Outcomes:

- To know the beauty of the coherence of Language and Literature
- To demonstrate the awareness of evolution theory of language by varied culture
- To study the formation of new words
- To explore literary elements

Course Code: AUBSCED 505

Linear Algebra

Course Outcomes:

- Introduction to vector space and subspace.

- Use computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors, Orthogonality and Diagonalization. (Computational and Algebraic Skills).

Course Code: AUBSCED 506

Semiconductor/Solid State Devices

Course Outcomes:

The students will be able to understand:

- Solid state materials and k-space representation etc.
- Fermi distribution, DOS and carrier transport, etc.
- The processing of semiconductor devices like 1D, 2D & 3D photonic crystals.

Course Code: AUBSCED 507

Physical & Inorganic Chemistry

Course Outcomes:

- To formulate the values and attitude related to environment.
- To develop the understanding of Energy exchange processes in terms of various forms of energy, heat and work.
- To develop basic understanding of co-ordination chemistry.
- Sensitivity will develop in students towards environment.
- Students will be able to state the various laws and will be able to correlate them in day to day life.

Course Code: AUBSCED 508

Economic Botany and Plant Biotechnology

Course Outcomes:

- Students will learn about the centres of origin of different crops.
- Students will learn the origin and plant parts used in some important cash crops.
- Students will learn the latest techniques in plant biotechnology.

Course Code: AUBSCED 509

Cell Biology & Genetics

Course Outcomes:

After completion of the semester the student will be able to explain the genetics and how the traits transfers from one generation to another. They can also be able to draw and explain the structure of cell and cell organelles

Semester-6th

Course Code: AUBSCED 601

Contemporary India & Education

Course Outcomes:

The students will be able to:

- Understand the Constitutional Provisions for Education in India.
- Understand the Fundamental Rights, Duties and Directive Principles of the State Policy.
- Develop competencies to understand the various issues related to Education and remedial measures.
- Understand the Constitutional provisions for inequality, discrimination and marginalization in UEE.
- Understand the importance of Education for the marginalized groups.
- Acquaint with the policy initiatives, educational policies and programme in Contemporary India.

Course Code: AUBSCED 602

Teaching of Physical Sciences

Course Outcomes:

The students will be able to:

- Familiarize with nature of physical science.
- Formulate instructional objectives in behavioral terms.
- Apply various approaches and methods of teaching physical science.
- Select and integrate various kinds of instructional media.

Course Code: AUBSCED 603

Teaching of Mathematics

Course Outcomes:

The students will be able to:

- Understand the nature and characteristics of Mathematics.
- Know the importance and values of teaching Mathematics.
- Understand the relationship of mathematics with other subjects of school curriculum.
- Understand aims and objective of teaching mathematics at school stage.
- Stage objective in behavioral term with reference to concepts and generalizations.
- Understand the contribution made by Indian and Western mathematician.
- Apply various methods of teaching of mathematics.
- Differentiate between method and techniques of teaching mathematics

Course Code: AUBSCED 604

Teaching of Life Sciences

Course Outcomes:

The students will be able to:

- Understand various objectives of teaching life sciences and to write the same in behavioral terms.
- Understand and apply various methods of teaching life sciences.
- Understand, analyze and improve present curriculum of life sciences operative at school level.
- Understand the importance and appropriate use of different audio visual aids and improvised apparatus in Indian conditions with reference to concepts to be taught.

Course Code: AUBSCED 605

English

Course Outcomes:

- To learn the use rather than usage of English
- To develop their critical thinking capabilities focused through the course as an important need.
- To expose to a range of contexts where the language is used to meet a variety of real life communication needs.
- To equip with the practical, emotional, intellectual and creative aspects of language by integrating knowledge and skills.
- To focus on readability, teach-ability and testability - to think beyond the text.
- To enhance practice in objective and subjective writing.

Course Code: AUBSCED 606

Numerical Analysis

Course Outcomes:

- To apply appropriate numerical methods to solve the problem with most accuracy.
- Using appropriate numerical methods determine approximate solution of ODE and system of linear equation.

- Compare different methods in numerical analysis w.r.t accuracy and efficiency of solution.

Course Code: AUBSCED 607

Thermal & Low Temperature Physics

Course Outcomes:

The students will be able to understand:

- Laws of thermodynamics, entropy, and Maxwell's thermodynamic relations etc.
- The Kinetic theory of gases-distribution of velocities, molecular collisions in Physics.
- The basics of real gases.

Course Code: AUBSCED 608

Physical & Organic Chemistry

Course Outcomes:

- To develop an understanding of important concept of Electrochemistry and various properties.
- To develop understanding of Halogen compound, carbonyl and carboxylic acid compound.
- To build solid foundation of Spectroscopy.
- Students will be able to write the mechanism of electrophilic and nucleophilic substitution reaction.
- Students will gain knowledge of spectrum, Electromagnetic radiations and other important topic related to Spectroscopy.

Course Code: AUBSCED 609

Environmental Biotechnology

Course Outcomes:

- Students will learn about the current environmental issues.
- Students will learn the role of different microorganisms in treatment of waste.
- Students will learn how the public participation can help in protection environment.

Course Code: AUBSCED 610

Mammalian Physiology

Course Outcomes:

One can expected to learn the process of physiology like digestion, respiration, excretion and blood circulation etc. They will be able to draw and write all about they had learnt.

Semester-7th

Course Code: AUBSCED 701

Teaching of Physical Sciences

Course Outcomes:

The students will be able to:

- Select and integrate various kinds of instructional media.
- Organize various co-curricular activities.
- Select appropriate text books.
- Explain the concept of evaluation.
- Plan lessons in physical science.

Course Code: AUBSCED 702

Teaching of Mathematics

Course Outcomes:

The students will be able to:

- Identify learning difficulties in Mathematics and adopt appropriate remedial measures.
- Understand the characteristics and strategies for teaching children with special needs in Mathematics.
- Explain the importance and uses of learning resources in Mathematics.
- Appreciate the importance of Mathematics laboratory in learning Mathematics.
- Understand the role of text book, exhibition and fairs in Mathematics.
- Prepare unit and lesson plans for teaching of Mathematics.
- Construct assessment tools for evaluation Mathematics learning.

Course Code: AUBSCED 703

Teaching of Life Sciences

Course Outcomes:

The students will be able to:

- Relate the knowledge of life sciences with other subjects of school curriculum.
- Develop basic teaching skills for improvement of teaching-learning process.
- Get familiar with principles and materials for setting an ideal life science laboratory.
- Understand the present techniques of evaluation in life sciences.

Semester-8th

Course Code: AUBSCED 801

Knowledge and Curriculum

Course Outcomes:

The students will be able to:

- Understand the meaning and principles of curriculum.
- Understand and appreciate curriculum as a means of development of the individual.
- Understand the foundations and evaluation of curriculum.
- Comprehend the different models of curriculum compare the view point given by different commissions.
- Develop an understanding of the concept, need, scope and functions of school management. Develop an understanding of different components of human and material resources of the school.

Course Code: AUBSCED 802

Understanding the Self

Course Outcomes:

The students will be able to:

- Understand self-concept and its importance in human life.
- Understand self-confidence and its importance in human life.
- Understand the nature, classification, sources, and methods of inculcation of human values. Understand the role of different agencies in promotion of human values.
- Define philosophy of yoga.
- Explain the psychological and physiological basis of yoga.

Course Code: AUBSCED 803

ICT in Teaching-Learning Process

Course Outcomes:

The students will be able to:

- Understand the concept and role of ICT in construction of Knowledge.
- Acquire knowledge and understanding about National Policy on Education.
- Identify the challenges in integration of ICT in school education.

- Understand computer fundamentals.
- Apply different Hardware Technologies in Modern Educational Practices.
- Familiarize with the new trends in ICT.

Course Code: AUBSCED 804

Health and Physical Education

Course Outcomes:

The students will be able to:

- Understand concept of health, hygiene and health education.
- Differentiate between communicable and non-communicable diseases.
- Develop skills in marking grounds for different games.
- Understand the objectives of school health services.
- Understand the concept and importance of physical education.

Course Code: AUBSCED 805

Guidance & Counseling

Course Outcomes:

The students will be able to:

- Understand the meaning, objectives, need, scope and principles of guidance.
- Develop counseling skills.
- Organize guidance programme in the secondary schools.
- Develop the skills to prepare case study, to diagnose and identify problems, prepare report and provide guidance accordingly.

M.A. Education

1st Year Courses

Course Code: AUMAEDU101 Philosophical Foundations of Educations

Course Outcomes:

To enable the learners to:

1. Understand and explain the nature and functions of educational philosophy.
2. Understand the concept and meaning of philosophy and branches of philosophy.
3. Understand and explain six schools of Indian Philosophy.
4. Understand and explain philosophical thoughts of some Indian and western prominent educational thinkers.

Course Code: AUMAEDU102 Sociological Foundations of Education

Course Outcomes:

To enable the learners to:

1. Understand the meaning and nature of educational sociology, sociology of education and social organizations.
2. Understand the social aspects of education.
3. Understand the meaning and concept of social change with special reference to India.
4. Understand the critical note on meaning, nature & determinants of culture and role of education in cultural context.
5. Understand the social interactions and culture.
6. Describe social interaction and their Educational implications.
7. Understand the inequalities, inequities and excellence in education.

Course Code: AUMAEDU103 Psychological Foundations of Educations

Course Outcomes:

To enable the learners to:

1. Develop understanding of the psychological and development basis of education.
2. Understand the concept and different principles of growth and development.
3. Understand the different aspects of development of learner's personality.
4. Understand different theories of development and their educational implications.
5. Understand different dimensions of individual differences
6. Understand the changing concept of intelligence, creativity and its application.
7. Understand different theories of personality.
8. Understand different techniques of assessment of personality.
9. Understand the concept of mental hygiene and health and its importance in their life.

Course Code: AUMAEDU104 Contemporary Issues in Education

Course Outcomes:

To enable the learner to:

1. Analyze the historical perspectives of education at different levels.
2. Understand the nature of education as an area of study with multidisciplinary knowledge base.
3. Reflect on the contemporary issues in education.
4. Appreciate that relevant research work would help to achieve efficiency and excellence in the educational practices.

Course Code: AUMAEDU105 Educational Technology

Course Outcomes:

To enable the learner to:

1. Understand the nature and scope of educational technology and also about the various forms of technology.
2. Establish relationship between learning theories and educational technology.
3. Know the instructional design and modes of development of self-learning material.
4. Know the different models of teaching.
5. Develop basic skills in the production of different types of instructional material.
6. Know the recent innovation and future perspectives of educational technology.
7. Familiarize with evaluation techniques.

2nd Year Courses

Course Code: AUMAEDU201

Curriculum Development and Comparative Education

Course outcomes:

To enable the learner to:

1. Develop an understanding of fundamentals of Curriculum development.
2. Understand the role of Philosophy, Psychology, and Sociology in shaping Curriculum.
3. Develop understanding of System analysis in Curriculum.
4. Develop the process of Curriculum Development.
5. Gain Knowledge and Understanding of various Models of curriculum design.
6. Understand the Evaluation process in Curriculum.
7. Understand the concept, significance and scope of Comparative Education.
8. Acquaint with the various approaches to study of comparative education; and also factors affecting development of education.
9. Comprehend and compare the concept, practice teaching and evaluation system of teacher education on focused countries.
10. Know the recent trends and best practices in education such as distance and open learning, vocational education and educational administration.
11. Understand and reflect on comparison of the educational systems of USA, UK, and India with special reference to Primary Education, Secondary Education and Higher Education.
12. Understand the prevailing problems and issues in education and also know the role of various agencies which acts for the progress of education system.

Course Code: AUMAEDU202

Special Education

Course outcomes:

To enable the learner to:

1. Know about the meaning and scope of special education in India.
2. Understand the various types of disabilities and making education integrated and inclusive to all in tune with the goal of Universalization of Education.
3. Grasp about the meaning, specific characteristics and modalities of identification of various types of (students who are different then majority or are) exceptional learners.
4. Understand various educational intervention programmes for meeting the needs of exceptional learners.

Course Code: AUMAEDU203

Methods of Data Analysis of Education

Course outcomes:

To enable the learner to:

1. Understand the nature and types of data and different scales of measurement.
2. Understand the concepts and nature of educational data and data analysis / statistical analysis techniques.
3. Understand and apply various statistical techniques to field-based educational data.
4. Appreciate the role of statistical tools / techniques in analysis of data for educational research.
5. Understand and apply various statistical techniques to field-based educational data.
6. Appreciate the role of statistical tools / techniques in analysis of data for educational research.
7. Make interpretations of findings revealed through statistical data analysis.

Course outcomes:

To enable the learner to:

1. Understand the meaning & Nature of Educational Research.
2. Have insight of types of Educational Research.
3. Understand the foundations of educational research.
4. Develop insight of the types and methods of educational research.
5. Understand the necessity of review of literature.
6. Construct and use different kinds of Tools & techniques of Collecting Data.
7. Formulate and test Hypothesis.
8. Understand about the fundamentals of Sampling theory and technique.
9. Familiarize about various measurement and scaling techniques.



Masters of Business Administration

Course Outcome

Semester-1

MANAGEMENT PRACTICES AND ORGANISATIONAL BEHAVIOUR

Course Code: AUMBA-101)

COURSE OUTCOMES: Students will have a better understanding of Management practices in organization. They will know the framework for managing individual and group performance.

BUSINESS ENVIRONMENT

Course Code: AUMBA-102)

Course Outcomes

- Upon successful completion of the course, students will be able to
- Discuss the supply and demand theory and its impact on businesses.
- Explain the effects of government policy on the economic environment and industries.
- Outline how an entity operates in a business environment.
- Describe how financial information is utilized in business.
- Explain the legal framework that regulates the business in general.

HUMAN VALUES AND PROFESIONAL & ETHICS

Course Code: (AUMBA-103)

Course Outcomes

- Learn the moral issues and problems; find the solution to those problems.
- Learn the need for professional ethics, codes of ethics and roles, concept of safety, risk assessment.
- Gain exposure to Environment Ethics; know their responsibilities and rights

COMPUTER APPLICATIONS IN BUSINESS

Course Code: AUMBA-104

Course Outcomes

- Upon successful completion of the course, students will be able to
- Discuss the communication network and networking devices.
- Explain the effects of AI.
- Outline of application and system software.
- Familiarizing the students with IT concepts.
- Explain the use of enterprise systems.

FINANCIAL MANAGEMENT

Course Code: AUMBA-105

Course Learning Outcomes:

- Upon successful completion of the course, the students will be able to
- Understand the concept of Financial Management and various sources of finance.
- Have the knowledge and skills to select and employ base level tools for capital structure using different types of approaches.

BUSINESS RESEARCH METHODS

Course Code: AUMBA-106

Course Outcomes

- Upon successful completion of the course, the students will be able to
- Demonstrate knowledge of research processes (reading, evaluating, and developing)
- Perform literature reviews using print and online resources
- Identify, explain, compare, and prepare the key elements of a research proposal/report
- Define and develop a possible research interest area using specific research designs

STRATEGIC MANAGEMENT

Course Code: (AUMBA-107

Course Outcomes

- Upon successful completion of the course, the students will be able to
- Have knowledge about various types of strategies and decisions related to strategic management.
- Understand about various levels of business as well as corporate level strategies.
- Get familiar about the implementation, evaluation and control of strategies.

4. Kark Rajneesh (2008). Competing with the Best: Strategic Management of Indian Companies in a Globalizing Arena Penguin Books.

5. AzharKazmi (2009). Business Policy and Strategic Management. Tata McGraw Hill, New Delhi

6. Jauch&Glueek(2009) : Business Policy and Strategic Management

Semester –II

BUSINESS STATISTICS AND COMPUTING SKILLS

Course Code :(AUMBA-201)

Course Outcomes:

- Produce appropriate graphical and numerical descriptive statistics for different types of data.
- Conduct and interpret a variety of hypothesis tests to aid decision making in a business context.
- Use simple/multiple regression models to analyze the underlying relationships between the variables through hypothesis testing.

PRODUCTION AND OPERATIONS MANAGEMENT

Course Code: (AUMBA-202)

Course Outcomes:

- Understand the role of operations in both manufacturing and service organizations and the significance of operations strategy in the overall business.
- Understand the importance of facilities location decision in the whole supply chain in globalized operations and learn the tools relating to facilities location.
- Understand different types of production processes and facility layout suitable for manufacturing different categories of products.
- Understand the elemental processes involved in designing a product and a service.

COMMUNICATION AND MARKETING SKILLS
Course Code:(AUMBA-203)

Course Outcomes:

- Understand the role of communication in personal and professional success.
- Develop awareness of appropriate communication strategies.
- Analyze a variety of communication acts.

Advanced Financial Management (AUMBAFM-01) (Major)

COURSE OUTCOMES:

- Possess the techniques of managing finance in an organization.

SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

Course Code :(AUMBAFM-02)

MANAGEMENT OF BANKING OPERATIONS (AUMBAFM-03)

Course Outcomes:

- Understand the banking operations in commercial and investment banks.
- Evaluate specific banking functions (i.e., strategic planning, administrative policies, marketing, loans, securities, asset/liability management, funding, and operations.
- Assess the integrated operations of a banking organization, including the activities of trust, information technology, and consumer-related issues.

ADVERTISING AND SALES MANAGEMENT

Course Code :(AUMBAMK-01)

Course Outcomes

- Upon successful completion of the course, students will be able to
- Understand the process of advertising communications.
- Acquaint approaches and methods to develop, execute and evaluate advertising campaigns
- Apply Advertising through the development and implementation of an advertising plan

CONSUMER BEHAVIOUR

Course Code: (AUMBA MK-02)

Course outcomes: The student will understand the influences on customer choice and the process of human decision making in a marketing context.

RURAL MARKETING

Course Code :(AUMBAMK-03)

Course Outcomes

- Upon successful completion of the course, students will be able to
- Understand in detail the concept and problems being faced by the rural markets.
- Acquaint various strategies that are specific for rural markets to flourish.
- Develop an insight of role being played by corporate sector in rural marketing.
- Create understanding of other concepts that are related to rural marketing like agriculture and social marketing.

MANAGEMENT OF INDUSTRIAL RELATIONS
Course Code :(AUMBAHR – 01)

Course Outcomes:

- To understand the Dynamic context of Industrial Relations
- To know the Industrial Bodies and Find out the ways of solving Labor Problems in India

LABOUR LEGISLATIONS

Course Code :(AUMBAHR -02)

Course Outcomes

- Upon successful completion of the course, the students will be able to
- Widen the learning horizons w.r.t. industrial workers and labour welfare; and,
- Sensitize w.r.t. various Acts that are related to the different aspects of labour welfare

INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

Course Code :(AUMBAHR -03)

- **Course Outcomes**
- Upon successful completion of the course, the students will be able to understand the complex dimensions of Industrial Psychology and the uses of test for placement, promotion.

Relational Database Management System
Course Code :(AUMBA IT-01)

Course Outcomes

1. Describe the fundamental elements of relational database management system.
2. Explain the basic concepts of relational data model, entity relationship model, relational database design, SQL.

E-COMMERCE & IT ENABLED SERVICES

Course Code :(AUMBAIT -02)

Course Outcomes

- Students will be able to identify and apply relevant problem solving methodologies.
- Design components, systems or processes to meet required specifications for a web presence.

SYSTEM ANALYSIS & DESIGN AND SOFTWARE ENGINEERING

Course Code :(AUMBAIT -03)

Course Outcomes

- Describe principles, concepts and practice of System Analysis and Design process.
- Explain the processes of constructing the different types of information systems.
- Design and Development of Information Systems in real world business environment.

INTERNATIONAL MARKETING
Course Code: (AUMBAIB – 01)

Course Outcomes

- Describe Foreign market entry strategies such as licensing, Joint venture, Franchising, exporting
- Explain the processes of constructing the different types of foreign market entries.

**INTERNATIONAL BUSINESS ENVIRONMENT AND FOREIGN EXCHANGE
ECONOMICS**

Course Code :(AUMBAIB – 02)

Course Outcomes

- Explain the processes of constructing the different types of foreign exchange market entries.
1. Maheshwari, S.N.(2009)., Financial Management – Principles & Practice, 13th Edition, Sultan Chand & Sons.
 2. Bhalla V.K (2009). - International Business Environment (Anmol).

EXPORT MANAGEMENT AND DOCUMENTATION

Course Code: (AUMBAIB – 03)

Course Outcomes

- To understand the Benefits arising from Export by using proper Export marketing channels and proper utilizing of various sources of Export Financing.

Semester-III

ENTREPRENEURSHIP DEVELOPMENT

Course Code:(AUMBA-301)

Course Learning Outcomes:

- Explain the meaning and significance of entrepreneurship and understand the process of entrepreneurial action.
- Understand the entrepreneurial mindset and personality.

INTERNATIONAL FINANCE& TAX PLANNING

Course Code :(AUMBA-302)

Course Learning Outcomes:

- Understanding the implications of tax benefits and incentives for corporate decisions in various situations.
- Understanding International Finance and Taxation
- Gain proper knowledge about exchange rates, stock market, derivate markets and GST.

SUPPLY CHAIN MANAGEMENT

Course Code: (AUMBA-303)

Course Outcomes

- Upon successful completion of the course, the students will be able to
- Identify ways to fulfill customer demand through efficient resources
- Describe the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from point of origin to point of consumption
- Apply principles of effective distribution and optimization of pre & post inventory levels
- Assess the product demand by driving customer value, improving responsiveness, facilitating financial success and building a good network.

PRINCIPLES OF INSURANCE AND BANKING

Course Code :(AUMBAFM-04)

Course Outcomes

- At the end of the course students are able to:
- Have knowledge about various types of insurance and its basic principles.
- Understand about various insurance related documents and other attachments associated with insurance.
- Extrapolate the types of operations and its management in banking business.
- Get familiar about recent trends in banking in India.

STRATEGIC FINANCIAL MANAGEMENT

Course Code: (AUMBAFM-05)

Course Outcomes

- Upon successful completion of the course, the students will be able to
- Widen the learning horizons w.r.t. crucial components of the financial system; and,
- Sensitize w.r.t. governance and administration issues concerning financial system, focusing on Indian financial system.

MANAGEMENT OF FINANCIAL SERVICE

Course Code :(AUMBAFM-06)

Course Outcomes

- Upon successful completion of the course, the students will be able to
- Widen the learning horizons w.r.t. crucial components of the financial system; and,
- Sensitize w.r.t. governance and administration issues concerning financial system, focusing on Indian financial system.

MARKETING OF SERVICES
Course Code: (AUMBAMK-04)

Course Outcomes:

- Apply principles of effective distribution and optimization of pre & post inventory levels
- Assess the product demand by driving customer value, improving responsiveness, facilitating financial success and building a good network.

RETAIL MANAGEMENT
Course Code :(AUMBAMK 05)

SALES AND DISTRIBUTION MANAGEMENT

Course Code:(AUMBAMK-06)

Course outcomes:

- To manage the retail chains and understand the retail customer's behavior and managing the sales forces

HUMAN RESOURCE PLANNING AND DEVELOPMENT
Course Code:AUMBAHR-04

Course outcomes:

- To manage the HR resources and buildup the challenges and strategies of HRD.

TEAM BUILDING & LEADERSHIP

Course Code: (HR-05)

Course Outcome

- It is designed to help any team leader, from a design and put together a winning team to achieve whatever goals it has set. It include vital information such as design and purpose of teams in various real life scenarios, the psychological aspect of the team membership and team building, shaping realistic goals and assessing resources to develop your team, and team building exercises to help you motivate and inspire your team to achieve maximum success.

TRAINING AND DEVELOPMENT FOR PERSONAL GROWTH

Course Code:(AUMBAHR-06)

Course Outcomes:

- Use concepts to become self-aware of strengths and discover innate potential which is the source of personal power.
- Learn personality determinants to overcome weakness and foster holistic development that encompasses physical, mental, social and spiritual self.
- Understand training need assessment and its need.
- Become an effective speaker and an active listener.

DATA COMMUNICATION & NETWORK

Course Code: (AUMBAIT-04)

Course Outcomes

- Independently understand basic computer network technology.
- Understand and explain Data Communications System and its components.
- Identify the different types of network topologies and protocols.

ENTERPRISE RESOURCE PLANNING

Course Code :(AUMBAIT-05)

Course Outcomes

- Identify the important business functions provided by typical business software such as
- Enterprise resource planning and customer relationship management.
- Describe basic concepts of ERP systems for manufacturing or service companies.
- Analyze the technical aspect of telecommunication systems, internet and their roles in
- Business environment.

INTERNET AND WEB DESIGNING

Course Code:(AUMBAIT-06)

Course Outcomes

- Analyze a web page and identify its elements and attributes.
- Create web pages using HTML and Cascading Style Sheets.

Semester-1V

Course Outcomes:

- Develop economic way of thinking in dealing with practical business..
- Strategic and Innovative Thinking and Analysis Skills to Enable Effective Opportunity Identification, Problem Solving, and Decision-Making.
- Industrial training will help you to enhance your skills and gain knowledge about your technical and interest field.
- The industrial training targets on several critical points in the working environment. It will help you to learn professionalism

B.A. B.Ed. (Courses Outcomes)

Semester-1st

Course Code: AUBAED 101

General Hindi

Course Outcomes:

- छात्रों में भाषा को समझने तथा मूल्यांकन करने की दृष्टि बढ़ाना
- शब्द संरचना प्रक्रिया के प्रति छात्रों का ध्यानाकर्षण कराना
- छात्रों को प्रयोजनमूलक हिन्दी की व्यापकता से अवगत करवाना
- हिन्दी भाषा की व्यवहारिक उपयोगिता का परिचय देना

Course Code: AUBAED 102

Introduction of Political Theory

Course Outcomes:

- Understand the main concepts and debates in classical and contemporary political theory.
- Critically read and analyse classical and contemporary texts on political theory.
- Illustrate and evaluate the development of concepts and theories throughout the history of Western political thought.
- Explain the relationship between political theory and other disciplines (e.g. political science);
- Apply philosophical concepts in order to understand and critically assess real-world political phenomena.

Course Code: AUBAED 103

Ancient History Earliest to 300 C

Course Outcomes:

- Students will understand the chronology of Ancient India.
- It will provide knowledge of development and the various achievement of man in Stone Age. It will through a deep light on the different aspects of Harappan civilization.
- It will motivate them to study the religious, spiritual texts of ancient India.
- Students will know about the different aspects of Indian history under various dynasties.
- It will help them to know about the emergence and philosophy of Jainism and Buddhism.
- It will also provide the idea about art and architecture of ancient India.

Course Code: AUBAED 104

Introduction of Sociology

Course Outcomes:

- Student will be able to explain social facts and society related concepts.
- Student will be able to define and explain sociological concepts.
- Student will be able to define and exemplify social fact.
- Student will be able to express empirical observations with sociological concepts.
- Student will be able to convey the historical development of sociology.

- Student explains the sociological theories in classic, modern and post modern eras.
- Student relates the development of sociology to social change.
- Student conveys the latest developments in sociology.

Semester-2nd

Course Code: AUBAED 201

Environmental Studies

Course Outcomes:

- To create awareness among students about environment protection. Course Outcomes
- Based on this course, the students will understand / evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn help in sustainable development.

Course Code: AUBAED 202

Computer Fundamentals, Internet & MS-Office

Course Outcomes:

After studying this course, the students will be able to:

- Understand the fundamental hardware components that make up a computer's hardware and the role of each of these components.
- Understand the difference between an operating system and an application program, and what each is used for in a computer.
- Describe some examples of computers and state the effect that the use of computer technology has had on some common products.
- Be familiar with software application.
- Understand file management.

Course Code: AUBAED 203

Indian Government and Politics

Course Outcomes:

- Introducing the Indian Constitution with a focus on the role of the Constituent Assembly and examining the essence of the Preamble.
- Examining the Fundamental Rights and Duties of Indian citizens with a study of the significance and status of Directive Principles.
- Assessing the nature of Indian Federalism with focus on Union-State Relations.
- Critically analyzing the important institutions of the Indian Union: the Executive: President; Prime Minister, Council of Ministers; Governor, Chief Minister and Council of Ministers; The legislature: Rajya Sabha, Lok Sabha, Speaker, Committee System, State Legislature, The Judiciary: Supreme Court and the High Courts: composition and functions- Judicial Activism

Course Code: AUBAED 204

Medieval History from 300 to 1206 AC

Course Outcomes:

- This course helps them to construct the idea about the Guptas, their rulers and administration. Students will be able to know about the various historical writings of ancient India.

- It will help them to examine the political structure of ancient India and the emergence of various regional powers.
- It will help them to understand the growth of Buddhism.
- Knowledge about the various changes in society, economy, and culture in ancient India.
- Different opinion about the origin of Rajputas and the Arab invaders.
- It will also help them to know about various types coins during the Gupta age.

Course Code: AUBAED 205

Society in India

Course Outcomes:

This course seeks to introduce the students to the study of Indian politics from a sociological Perspective. In the process, it attempts to give the students theories, categories and conceptual tools to understand politics in relation to society in general.

Semester-3rd

Course Code: AUBAED 301

Childhood and Development Years

Course Outcomes:

- Understand the meaning, nature and scope of educational psychology.
- Understand growth and development of the learner and its importance in the learning process.
- Understand the need and problems of adolescence.
- Identify educational needs of various types of children
- Understand concept of intelligence and personality, theories of intelligence and personality and their educational implications

Course Code: AUBAED 302

Understanding Disciplines and Subjects

Course Outcomes:

- Understand the nature of discipline and school subjects.
- Differentiate between school subjects and curriculum.
- Integrate and apply concepts and theories in real classrooms

Course Code: AUBAED 303

Language Across the Curriculum

Course Outcomes:

- Understand the nature, importance and use of Language.
- Acquaint with some latest methods and approaches for planning of successful language teaching.
- Identify and be sensitive to the proficiency, interests and needs of learners.
- Practice learner centered methods and techniques in the classroom.
- Use technology to enrich language teaching,
- Encourage continuous professional development.

Course Code: AUBAED 304

English

Course Outcomes:

- Students will strengthen their ability to write academic papers, essays and summaries using the process approach.
- To recognize poetry from a variety of cultures, languages and historic periods.
- To understand and appreciate poetry as a literary art form.
- To analyze the various elements of poetry, such as diction, tone, form, genre, imagery, figures of speech, symbolism, theme, etc.

Course Code: AUBAED 305

(i) Comparative Government and Politics

(ii) Introduction to International relations

Course Outcomes:

- Tracing the evolution of Comparative Politics as a discipline and drawing a distinction between Comparative Politics and Comparative Government.
- Investigating the nature and scope of Comparative Politics.
- Analysing the approaches and models of comparison: systems analysis; structural functionalism; and institutional approach.
- Explaining scope and subject matter of International Relations as an autonomous academic discipline.
- Approaches and methods to study the discipline through Political realism, Pluralism and World system's Model.
- Examining the issues of Underdevelopment, Terrorism, Regionalism and Integration that characterizes the Post second world war order.

Course Code: AUBAED 306

History of India from 1206 to 1707 AD

Course Outcomes:

- Students will be able to know about the establishment of Delhi sultanate.
- Philosophy of Bhakti and Sufi movements.
- Foundation and expansion and consolidation of Mughal Empire and decline of Mughal Empire.
- It will help them to know about the art and architecture of medieval India.
- They will be able to identify the various causes of rising of Maratha and Sikh Power.

Course Code: AUBAED 307

Sociological Theories

Course Outcomes:

The present course introduces the students to the classical sociological thinkers, whose work has shaped the discipline of sociology. Acquaintance with the writing of three thinkers (Auguste Comte, Karl Marx, Max Weber, Emile Durkheim) would equip the students with theoretical insights to know, analyze and interpret the social scenario around them and would also familiarize them with the different sociological perspectives and theories.

Semester-4th

Course Code: AUBAED 401

Learning and Teaching

Course Outcomes:

The students will be able to:

- Understand the nature, characteristics of learner and principles to make teaching-learning effective and productive.
- Explain the concept, nature of learning as a process and conditions of learning.

- Describe the Gagne's types of learning.
- Explain the concept, types and strategies to develop memory.
- Understand nature, causes, factors and strategies to minimize forgetting.
- Apply the knowledge and understanding of the learning process, principles and theories of learning with their educational Implications.
- Describe the concept, Importance and level of transfer of learning.

Course Code: AUBAED 402 Drama and Art in Education

Course Outcomes:

The students will be able to:

- Understand the concept and importance of various arts in human life.
- Understand aims, objectives and principles of performing and visual arts.
- Appreciate Indian folk and visual and performing arts.
- Understand various methods and techniques of teaching creative arts.
- Understand the importance of visits in arts exhibitions and cultural festivals.

Course Code: AUBAED 403 Text Reading and Reflections

Course Outcomes:

The students will be able to:

- Learn to read Newspaper Follow Radio, TV & Internet media critically and with understanding.
- Form and exchange viewpoints on political and social Issues.
- Distinguish fact, fiction and opinion in Newspaper articles.
- Develop teachers professionally and support their aspirations as teachers.

Course Code: AUBAED 404 English

Course Outcomes:

The students will be able to:

- Read and comprehend better.
- Communicate in English orally and in writing.
- Participate in role plays and mini-talks.
- Refer to the dictionary for synonymous expressions and grammar.

Course Code: AUBAED 405 (i) Legislative Support (ii) Public Opinion & Survey Research

Course Outcomes:

To acquaint the student broadly with the legislative process in India at various levels, introduce them to the requirements of peoples' representatives and provide elementary skills to be part of a legislative support team. This course will introduce the students to the debates, principles and practices of public opinion polling in the context of democracies, with special reference to India. It will familiarise the students with how to conceptualize and measure public opinion using quantitative methods, with particular attention being paid to developing basic skills pertaining to the collection, analysis and utilisation of quantitative data.

Course Code: AUBAED 406 History of India 1707 to 1950 AD

Course Outcomes:

- To understand modern India.
- Students from history stream will get knowledge about the penetration, expansion and consolidation of British Rule in India.
- Indian awakening, cultural changes and socio- religious reforms movements, Revolt of 1857
- They will acquire knowledge about communal politics, partition in India and aftermath of Indian states and also how India became the republic nation.

Course Code: AUBAED 407 Methods of Sociological Enquiry

Course Outcomes:

The course is a general introduction to the methodologies of sociological research methods. It will provide the student with some elementary knowledge of the complexities and philosophical underpinnings of research.

Semester-5th

Course Code: AUBAED 501 Assessment for Learning

Course Outcomes:

The students will be able to;

- Understand the nature of assessment and its role in teaching-learning process.
- Understand the different perspectives of learning on assessment.
- Realize the need for school-based assessment in schools.
- Examine the contextual roles of different forms of assessment.
- Understand the different dimensions of learning and the related assessment procedures, tools and techniques

Course Code: AUBAED 502 Gender, School and Society

Course Outcomes:

The students will be able to:

- Develop basic understanding and familiarity with key concepts: Gender bias, gender stereotype, empowerment, equity and equality, patriarchy, matriarchy, masculinity and feminism.
- Understand some important landmarks in connection with gender and education in the historical and contemporary perspective.
- Learn about gender issues in school curriculum, textual materials across discipline, pedagogical processes and its interaction with class, caste, religion and region.

Course Code: AUBAED 503 Inclusive School

Course Outcomes:

The students will be able to:

- Understand the concept, nature and types of disabilities.
- Identify the characteristics and need, identification of different types of disabled children. Understand the concept, nature and approaches of inclusion in education.
- Understand and reflect on models of inclusion in education.
- Acquire knowledge and understanding about the provisions made for disabled children under SSA and RTE Act, 20096.

- Understand different pedagogical and assessment techniques for inclusion of CWSN.
- Employ different pedagogical approaches for inclusion of CWSN in regular schools.

Course Code: AUBAED 504 English

Course Outcomes:

- To know the beauty of the coherence of Language and Literature
- To demonstrate the awareness of evolution theory of language by varied culture
- To study the formation of new words
- To explore literary elements

Course Code: AUBAED 505 Democratic Awareness with Legal Literacy

Course Outcomes:

The student should be aware of the institutions that comprise the legal system - the courts, police, jails and the system of criminal justice administration. Have a brief knowledge of the Constitution and laws of India, an understanding of the formal and alternate dispute redressal (ADR) mechanisms that exist in India, public interest litigation. Have some working knowledge of how to affirm one's rights and be aware of one's duties within the legal framework; and the opportunities and challenges posed by the legal system for different sections of persons.

Course Code: AUBAED 506 Modern and Contemporary World History 1: 1871-1919

Course Outcomes:

The students will be able to understand:

- To acquaint students with the past and present of India and the World.
- Impart a critical understanding of Indian society, economy, polity, and culture through a historical perspective.
- To prepare students for a range of careers.
- To stimulate intellectual curiosity and research attitude in the students.
- To have some knowledge and understanding of historical development in the wider world.
- The processing of semiconductor devices like 1D, 2D & 3D photonic crystals.

Course Code: AUBAED 507 Marriage, Family and Kinship

Course Outcomes:

This course aims to highlight and critically examine contemporary concerns in the fields of marriage, family and kinship. It considers theoretical issues and ethnographies with particular emphasis on diversity of practices.

Semester-6th

Course Code: AUBAED 601 Contemporary India & Education

Course Outcomes:

The students will be able to:

- Understand the Constitutional Provisions for Education in India.

- Understand the Fundamental Rights, Duties and Directive Principles of the State Policy.
- Develop competencies to understand the various issues related to Education and remedial measures.
- Understand the Constitutional provisions for inequality, discrimination and marginalization in UEE.
- Understand the importance of Education for the marginalized groups.
- Acquaint with the policy initiatives, educational policies and programme in Contemporary India.

Course Code: AUBAED 602 Teaching of Social Sciences

Course Outcomes:

The students will be able to:

- Understand meaning, nature and scope of social sciences.
- Understand the need and importance of teaching social sciences and relationship of social sciences with other subjects of school curriculum.
- Understand aims and objectives of teaching social sciences at school stage.
- Acquaint with different approaches of teaching social sciences at school stage.
- Select and use appropriate methods and approaches of teaching social sciences.

Course Code: AUBAED 603 (i) Teaching of English

Course Outcomes:

The students will be able to:

- Understand the nature, importance and use of English language.
- Identify the proficiency, interests and needs of learners.
- Understand methods and approaches of Teaching English Language.
- Develop language skills: listening, speaking, writing and reading for Communication purpose

Course Code: AUBAED 603(ii) Teaching of Hindi

Course Outcomes:

Paper code AUBAED- 603 (ii) TEACHING OF HINDI

(हिंदी शिक्षण) पाठ्यक्रम संप्राप्ति: पाठ्यक्रम के अंत में छात्र निम्नलिखित उद्देश्यों को प्राप्त करने में सक्षम होंगे: 1. भाषा का अर्थ, प्रकृति एवं महत्व 2. भाषा की अलग-अलग भूमिका को जानना 3. भाषा के विभिन्न रूपों एवं अभी व्यक्तियों को जानना 4. मातृभाषा, क्षेत्रीय भाषा व विदेशी भाषा के रूप में हिंदी को पहचानने में 5. हिंदी शिक्षण में गद्य पद्य रचना एवं व्याकरण के चरणों एवं उद्देश्यों ज्ञान प्राप्त करने ।

Course Code: AUBAED 604 English

Course Outcomes:

- To learn the use rather than usage of English
- To develop their critical thinking capabilities focused through the course as an important need.

(हिंदी शिक्षण) पाठ्यक्रम संप्राप्ति: पाठ्यक्रम के अंत में छात्र निम्नलिखित उद्देश्यों को प्राप्त करने में सक्षम होंगे:

1. हिंदी शिक्षण में गद्य पद्य रचना एवं व्याकरण के चरणों एवं उद्देश्यों का ज्ञान
2. हिंदी भाषा में मूल्यांकन संबंधित क्षमता प्राप्त करते हुए प्रश्न पत्र का निर्माण।
3. विद्यार्थियों की सृजनात्मक क्षमता को पहचानना
4. हिंदी शिक्षण में भाषा कौशल से संबंधित कौशल का विकास

Semester-8th

Course Code: AUBAED 801 Knowledge and Curriculum

Course Outcomes:

The students will be able to:

- Understand the meaning and principles of curriculum.
- Understand and appreciate curriculum as a means of development of the individual.
- Understand the foundations and evaluation of curriculum.
- Comprehend the different models of curriculum compare the view point given by different commissions.
- Develop an understanding of the concept, need, scope and functions of school management. Develop an understanding of different components of human and material resources of the school.

Course Code: AUBAED 802 Understanding the Self

Course Outcomes:

The students will be able to:

- Understand self-concept and its importance in human life.
- Understand self-confidence and its importance in human life.
- Understand the nature, classification, sources, and methods of inculcation of human values. Understand the role of different agencies in promotion of human values.
- Define philosophy of yoga.
- Explain the psychological and physiological basis of yoga.

Course Code: AUBAED 803 ICT in Teaching-Learning Process

Course Outcomes:

The students will be able to:

- Understand the concept and role of ICT in construction of Knowledge.
- Acquire knowledge and understanding about National Policy on Education.
- Identify the challenges in integration of ICT in school education.
- Understand computer fundamentals.
- Apply different Hardware Technologies in Modern Educational Practices.
- Familiarize with the new trends in ICT.

Course Code: AUBAED 804 Health and Physical Education

Course Outcomes:

The students will be able to:

- Understand concept of health, hygiene and health education.
- Differentiate between communicable and non-communicable diseases.

- Develop skills in marking grounds for different games.
- Understand the objectives of school health services.
- Understand the concept and importance of physical education.

Course Code: AUBAED 805

Guidance & Counseling

Course Outcomes:

The students will be able to:

- Understand the meaning, objectives, need, scope and principles of guidance.
- Develop counseling skills.
- Organize guidance programme in the secondary schools.
- Develop the skills to prepare case study, to diagnose and identify problems, prepare report and provide guidance accordingly.

M.A. Economics

Course Outcomes

AUMAECO-101-Microeconomics

- Introduce tools and methods of economic analysis that will serve as the basis for other courses in economics such as Macroeconomics, Economic Analysis, Managerial Economics, and Economic Resources.
- Provide non-specialists economics student with a good introduction to the fundamental principles of microeconomics.
- Familiarize students to use the concepts to which they are introduced to facilitate analysis of the functioning of the micro economy.
- This course provides students with the foundation theories of basic microeconomics including an introduction into the study of economics and analyses of economic agents' behaviours, particularly that of the individual and the firm.

AUMAECO-102-International Economics

AUMAECO-103-Elementary Mathematical Economics

AUMAECO-104-Macro Economics

AUMAECO-105-Money and Banking

AUMAECO-106-Business Statistics

AUMAECO -107-Economics of Development and Planning

AUMAECO -108-History of Economic Thought

AUMAECO -109*-Agriculture Economics

AUMAECO -110*-Regional Economics

AUMAECO -111*-Economics of Population

AUMAECO -112*- Basics of Econometrics

AUMAECO -113

AUMAECO -114

AUMAECO -115*

AUMAECO -116*

AUMAECO -117*

M-TECH COMPUTER SCIENCE ENGINEERING SYLLABUS OUTCOMES AND OBJECTIVES

SUBJECT CODE	SUBJECT NAME	OBJECTIVES	OUTCOMES
1ST SEMESTER			
AUMTCSE-101	Big Data Analytics	<ul style="list-style-type: none"> To provide an overview of an exciting growing field of big data analytics. To introduce the tools required to manage and analyze big data like Hadoop, NoSQL, Map Reduce. To teach the fundamental techniques and principles in achieving big data analytics with scalability and streaming capability. <p>To enable students to have skills that will help them to solve complex real-world problems in for decision support.</p>	<ul style="list-style-type: none"> Understand the key issues in big data management and its associated applications in intelligent business and scientific computing. Acquire fundamental enabling techniques and scalable algorithms like Hadoop, Map Reduce and NO SQL in big data analytics. Interpret business models and scientific computing paradigms, and apply software tools for big data analytics.
AUMTCE/ME/CSE-102	Research Methodology	<ul style="list-style-type: none"> The method is supported by powerful optimization and numerical techniques, which allow us to work with bodies of complex initial design and with very fine finite-element meshes, giving thus quite accurate solutions even in "difficult" parts and for complex geometries. 	<ul style="list-style-type: none"> Able to apply the knowledge of sampling data & conducting various analysis.
AUMTCSE-103	Data Structure & Algorithm Analysis in C	<ul style="list-style-type: none"> To teach various storage mechanisms of data. To design and implement various data structures. To introduce various techniques for representation of the data in the real world. 	<ul style="list-style-type: none"> Students will be able to implement various linear and nonlinear data structures. Able to apply the knowledge of sampling data in conducting various surveys and analysis.

			Students will be able to select appropriate sorting technique for given problem.
AUMTCSE-104(A)	Software Engineering	<ul style="list-style-type: none"> • To provide the knowledge of software engineering discipline. • To apply analysis, design and testing principles to software project development. • To demonstrate and evaluate real time projects with respect to software engineering principles. 	<ul style="list-style-type: none"> • Understand and demonstrate basic knowledge in software engineering. • Identify requirements, analyze and prepare models. • Identify risks, manage the change to assure quality in software projects.
AUMTCSE-104(B)	Advanced Software Engineering Concepts	<ul style="list-style-type: none"> • To demonstrate and evaluate real time projects with respect to software engineering principles. • To specify, abstract, verify and validate solutions to large-size problems, to plan, develop and manage large software and learn emerging trends in software engineering. 	<ul style="list-style-type: none"> • Identify and apply the principles, processes and main knowledge areas for Software Project Management. • Apply testing principles on software project and understand the maintenance concepts.
2ND SEMESTER			
AUMTCSE-201	Object Oriented Programming with JAVA	<ul style="list-style-type: none"> • To program using C++ features such as composition of objects, Operator overloading, inheritance, Polymorphism etc. • To understand the concept of object oriented programming, java elements. 	<ul style="list-style-type: none"> • Be able to understand the difference between object oriented programming and procedural oriented language and data types in C++. • Be able to program using C++ features such as composition of objects, Operator overloading,

			inheritance, Polymorphism etc.
AUMTCSE-202	Computer Networks	<ul style="list-style-type: none"> • To get a basic introduction to key concepts and techniques underlying cellular communication and medium access control in wireless networks. • To learn the architecture and issues related to IEEE 802.11 wireless LAN. • To expose the students to various internetworking, routing and multicasting issues and protocols. 	<ul style="list-style-type: none"> • Grasp the concepts and characteristics of wireless signals and transmission channels. • Identify and understand the various design issues of internetworking, routing and multicasting.
AUMTCSE-203	Distributed Data Base Management System	<ul style="list-style-type: none"> • To learn Distributed Database Management Systems (DDBMSs) features such as concurrency control, recovery control, transactional models, and query processing. • To learn advanced topics of databases like object-oriented, parallel and distributed databases. • To implement the concepts of decision-support models in various database applications 	<ul style="list-style-type: none"> • Analyze the advanced concepts along with their application areas. • Design recovery protocols for distributed databases and parallel database architectures.
AUMTCSE-204(A)	Software Quality and Testing	<ul style="list-style-type: none"> • To provide the students with theoretical knowledge about concepts of software quality, about the quality models, standards and – methodologies used in software industry. • Understanding and usage of the theory is consolidated by the case studies and exercises. • To understand software and functional testing. 	<ul style="list-style-type: none"> • To develop ability to analyze the relations among software product, process and project in quality assurance and management. • To understand the relationships between software process improvement and software quality management.
AUMTCSE-204(B)	Computer Architecture and Parallel Processing	<ul style="list-style-type: none"> • To provide students with a broad understanding of computer architecture. 	<ul style="list-style-type: none"> • Understand the advanced concepts of computer

		<ul style="list-style-type: none"> To study architectures exploiting instruction-level parallelism (ILP), and multiprocessors and minicomputers. To provide exposure to current and emerging trends in Computer Architectures. 	<p>architecture.</p> <ul style="list-style-type: none"> Investigate modern design structures of Pipelined and Multiprocessors systems. Understand the interaction amongst architecture, applications and technology.
3RD SEMESTER			
AUMTCSE-301	Artificial Intelligence & Expert System	<ul style="list-style-type: none"> To understand the concept of AI and Expert Systems. To understand the insight of natural language processing. 	<ul style="list-style-type: none"> Be able to understand the concept of AI, Expert Systems and NLP. Be able to use propositional logic and pragmatic processing.
AUMTCSE-302	Operating System and Case Study	<ul style="list-style-type: none"> To introduce advanced operating system concepts with emphasis on foundations & design principles. Different components of operating system are covered. 	<ul style="list-style-type: none"> Able to analyze the structure of operating systems and evaluate the relationship between the application programs that work on them. Able to review the state of art in operating systems design.
AUMTCSE-303	Data Warehousing and Data Mining	<ul style="list-style-type: none"> Compare and contrast different conceptions of data mining as evidenced in both research and application. Describe how to extend a relational system to find patterns using association rules. Evaluate methodological issues underlying the effective application of data mining. 	<ul style="list-style-type: none"> Demonstrate the knowledge gained through solving problems. Use of data mining tools during Projects to build reliable products, the current demand of the industry.
AUMTCSE-304(A)	Cloud Computing	<ul style="list-style-type: none"> An overview of the concepts, processes, and best practices needed to successfully secure 	<ul style="list-style-type: none"> Identify security aspects of each cloud model.

		<p>information within Cloud infrastructures.</p> <ul style="list-style-type: none"> To learn the basic Cloud types and delivery models and develop an understanding of the risk and compliance responsibilities and Challenges for each Cloud type and service delivery model. 	<ul style="list-style-type: none"> Develop a risk-management strategy for moving to the Cloud. Implement a public cloud instance using a public cloud service provider.
AUMTCSE-304(B)	Cyber Law	<ul style="list-style-type: none"> Examine how the online world has borne new crimes and law enforcement response. Gain insights to application of IT Laws for different types of cyber-crimes. 	<ul style="list-style-type: none"> Analyze various types of cyber-crime and formulate real world cyber-crime investigations. Ability to find solutions in cyber-crime investigations, evidence and applicable law for real world case studies.
AUMTCSE-305	Pre Thesis	<ul style="list-style-type: none"> To provide basic knowledge of thesis work to the students 	<ul style="list-style-type: none"> Able to apply various methodologies, strategies related to thesis
4TH SEMESTER			
AUMTCSE-401	Thesis /Dissertation	<ul style="list-style-type: none"> To provide brief knowledge of thesis work to the students 	<ul style="list-style-type: none"> Able to apply various methodologies, strategies related to thesis Able to summarize and analyze the data collected

(PO): Programme Outcomes of the Department of Pharmaceutical Sciences

Department of Pharmaceutical Sciences currently offers:

- A two year, master in Pharmacy (M.Pharm) degree program in Pharmaceutics
- A two year, master in Pharmacy (M.Pharm) degree program in Pharmacology
- A Ph.D. degree in Pharmaceutical Sciences

The Department of Pharmaceutical Sciences (DPS) offers students two degree tracks: M. Pharm and Ph.D. Upon post graduation, the Ph.D. degree will provide them knowledge and tools necessary to become independent researchers, and also the passion and enthusiasm to make impactful contributions to the pharmaceutical sciences field through their career.

Master of Pharmacy (M.Pharm) in Pharmaceutics

M.Pharm. in Pharmaceutics is a 2-year, year dissertation-based program for students who are engrossed in development and formulation of new drugs and therapies. The Master of Pharmacy in Pharmaceutics includes research related to drug delivery, molecular pharmaceutics, nanoformulations and the regulatory affairs pertaining to the pharmaceutical industry. This program has a structure to sustain the students in the field of academia, pharmaceutical industry and also to opt for higher education. This postgraduate course will provide the experimental skills, knowledge, logical thinking to conduct and interpret the experimental data of pharmaceutical experiments.

Master of Pharmacy (M.Pharm) in Pharmacology

M.Pharm. in Pharmacology is a 2-year, year dissertation-based program for students who are interested to study the fundamental principles of pharmacology, mechanisms of drug action and current topics in drug discovery. Students will be trained in basic biochemical, cellular and molecular techniques. This program prepares student lifelong expert with the knowledge in pharmacological and toxicological research, in pharmaceutical and biotechnology industries as well as in research laboratories.

Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences

This program provides Ph.D. in the Pharmaceutical Sciences Pharmacology and Pharmaceutics. It is aimed at students with M.Pharm or M.S.(Pharm) Degrees. Studies conclude with the award of a Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences, with an emphasis on research in formulations development and their pharmacological activities in metabolic disorders, rheumatoid arthritis and cancer as well as other diseases. Students are trained for excellent positions in academia, research, education, government, and pharmaceutical industry. The Ph.D. program is intended to foster student development as critical thinkers, skilled researchers and honed for leadership roles.

(C) Course Outcomes:

DRUG DELIVERY SYSTEMS (MPH102T): This course will provide the knowledge on the area of advances in novel drug delivery systems. Student shall be able to understand the various approaches for development of novel drug delivery systems, criteria for selection of drugs and polymers for the development of formulation and evaluation.

MODERN PHARMACEUTICS (MPH 103T): This course is designed to impart advanced knowledge and skills required to learn various aspects and concepts at pharmaceutical industries. Student shall be able to understand the elements of preformulation studies and Generic drug. They will also gain the knowledge about the product development, industrial management and packaging of dosage forms.

REGULATORY AFFAIRS (MPH 104T): Students will gain the advance knowledge and skills required to learn the concept of generic drug and their development, various regulatory filings in different countries, different phases of clinical trials and submitting regulatory documents.

MOLECULAR PHARMACEUTICS (NANO TECHNOLOGY & TARGETED DDS) (NTDS) (MPH 201T): Student shall be able to understand the advances in novel drug delivery. It would also help them to know what are the selection criteria for drugs and polymers in development of NTDS systems.

ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS (MPH 202T): Students shall be gain the knowledge and skills necessary for dose calculations, dose adjustments and to apply biopharmaceutics theories in practical problem solving.

COMPUTER AIDED DRUG DELIVERY SYSTEMS (MPH 203T): Student shall be able to learn the knowledge and skills necessary for computer applications in entire drug research and development process. This course would also help them to clarify the concepts.

COSMETICS AND COSMECEUTICALS (MPH 204T): This course is designed to impart knowledge and skills necessary for the fundamental need for cosmetic and cosmeceutical products. Students shall be able to understand the key ingredients used in cosmetics and cosmeceuticals, current technologies in the market.

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUE (MPL and MPH101T): Student shall be able to learn the various advanced analytical instrumental techniques for identification, characterization and quantification of drugs.

ADVANCED PHARMACOLOGY - I (MPL 102T): Students shall be gain the basic knowledge in the field of pharmacology and to impart recent advances in the drugs used for the treatment of various diseases. In addition, it will help the students to understand the concepts of drug action and mechanisms involved.

PHARMACOLOGICAL AND TOXICOLOGICAL SCREENING METHODS - I (MPL 103T): Students will gain the knowledge on preclinical evaluation of drugs and recent experimental

techniques and models used in the drug discovery and development. It also provides basic to understand the maintenance of laboratory animals as per the guidelines, various in-vitro and in-vivo preclinical evaluation processes.

CELLULAR AND MOLECULAR PHARMACOLOGY (MPL 104T): Students will expand the fundamental knowledge on the structure and functions of cellular components and it will further help the student to apply the knowledge in drug discovery process.

ADVANCED PHARMACOLOGY - II (MPL 201T): Students will understand the mechanism of drug actions at cellular and molecular level including the adverse effects, contraindications and clinical uses of drugs used in treatment of diseases.

PHARMACOLOGICAL AND TOXICOLOGICAL SCREENING METHODS-II (MPL 202T): This subject imparts knowledge on the preclinical safety and toxicological evaluation of drug & new chemical entity. This knowledge will make the student competent in regulatory toxicological evaluation

PRINCIPLES OF DRUG DISCOVERY (MPL 203T): The students will learn basic knowledge of drug discovery process. This information will make the student competent in drug discovery process.

CLINICAL RESEARCH AND PHARMACOVIGILANCE (MPL 204T): This course will provide a value addition and current requirement for the students in clinical research and pharmacovigilance. It will teach the students on conceptualizing, designing, conducting, managing and reporting of clinical trials.

MPL-301T & MPH - 301T (RESEARCH METHODOLOGY AND BIOSTATISTICS): Students will learn the fundamental methodology to carry out experimental design and research. They will also learn the different statistical methods to interpret the experimental data.

Program Specific Outcomes (PSOs):

1. Our Post Graduate and Doctoral scholars would be compassionate, skilled, and ethical professionals and researchers committed to the cause of health and wellness.
2. Capable of new knowledge and mechanistic approach to the effects of chemical and biological entities and innovative formulations as applied to human health, while displaying leadership and professionalism.

Study & Evaluation Scheme

Of

PGDCA

[Applicable w.e.f. Academic Year 2019-20]



ABHILASHI UNIVERSITY

Chailchowk (Chachyot), Distt. Mandi (H.P.)

Website: www.abhilashiuniversity.in

Study & Evaluation Scheme Programme: PGDCA

SEMESTER-I

Sr.No.	Course Code	Subject	Teaching Scheme				Evaluation Scheme		
			L	T	P/D	Credits	Internal Assessment	External Assessment	Total
1	AUPGDCA - 101	Fundamentals of Programming using C	3	1	0	4	40	60	100
2	AUPGDCA - 102	PC Software	3	1	0	4	40	60	100
3	AUPGDCA - 103	Operating System	3	1	0	4	40	60	100
4	AUPGDCA - 104	Computer Organization and Architecture	3	1	0	4	40	60	100
LABS									
1	AUPGDCA - 101(L)	Fundamentals of Programming using C	0	0	2	1	30	20	50
2	AUPGDCA - 102(L)	PC Software	0	0	2	1	30	20	50
TOTAL			12	4	4	18			

SEMESTER-II

Sr.No.	Course Code	Subject	Teaching Scheme				Evaluation Scheme		
			L	T	P/D	Credits	Internal Assessment	External Assessment	Total
1	AUPGDCA - 201	Data and File Structure	3	1	0	4	40	60	100
2	AUPGDCA - 202	System Analysis and Design	3	1	0	4	40	60	100
3	AUPGDCA - 203	Object Oriented Programming & C++	3	1	0	4	40	60	100
4	AUPGDCA - 204	Database Management System	3	1	0	4	40	60	100
LABS									
1	AUPGDCA - 203(L)	DFS using C++	0	0	2	1	30	20	50
2	AUPGDCA - 204(L)	Database Management System	0	0	2	1	30	20	50
3		Project Work					100	100	200
TOTAL			12	4	4	18			

SEMESTER - I

FUNDAMENTALS OF PROGRAMMING USING C (AUPGDCA - 101)

Credits- 4 (L-3, T-1)

Objective: To understand the topics on the programming language C. Also understand the various concepts about C language functions, pointers, structure etc.

Course Outcomes:

- Students will be able to programming skills for solving problems
- To implement coding standards using C

Course Content:

SECTION–A

Programming Tools: Problem analysis, Program constructs (sequential, decision, loops), Algorithm, Flowchart, Pseudo code, Decision table, Modular programming, Top Down and Bottom up approaches, Concept of High Level Languages, Low Level Languages, Assembly Languages, Compiler, Interpreter, Type of errors.

SECTION–B

Overview of C: General structure of C Program. Data types, Operators and expressions: Constants and Variables, Data types, Declaring Variables, Storage Classes, Different types of expressions and their Evaluation, Conditional Expression, Assignment statement, Enumerated data type, Redefining/Creating data types, Library functions, Type casting. Input/Output: Unformatted and formatted I/O Functions (Character and strings I/O, *scanf ()*, *printf ()*).

SECTION–C

Control Statements: Decision making using *if*, *if-else*, *elseif* and *switch* statements, Looping using *for*, *while* and *do-while* statements, Transferring Program controlling *break* and *continue* statements, Programming examples to illustrate the use of these control statements.

Pointers: Definition, Need of pointers, declaring Pointers, Accessing Values via Pointers, Pointer arithmetic, Types of pointers.

SECTION–D

Functions: Defining a function, Local variables, *return* statement, invoking a Function, specifying and passing arguments to a function, Functions returning non Integer, External, static and register variable, block structure, initialization and recursion.

Structures: Declaring a structure type, Declaring Variables of structure type, Initializing Structures, Accessing Elements of structures, arrays of structures, nested structures, Pointers to structures.

Text Books:

1. Mullis Cooper: Spirit of C: Jacob Publications
2. Yashwant Kanetkar: Let us C: BPB

Refrence Books:

1. Kerningham B.W. & Ritchie D. M.: The C Programming Language: PHI
2. Yashwant Kanetkar: Pointers in C: BPB
3. Gotterfied B.: Programming in C: Tata McGraw Hill

PC SOFTWARE (AUPGDCA - 102)

Credits- 4 (L-3, T-1)

Objective: To understand the operating system concept. To get to know about a various types of operating system. To get the basic knowledge about MS – Office.

Course Outcomes:

- To see working of different operating systems
- To implement MS-Office PC Suite

Course Content:

SECTION–A

Operating System Concept: Duties, Responsibilities and functions of an Operating system, General understanding of different Operating System Environment (Single user system, Multi user system, Graphical user interface system, character based system).

SECTION–B

Disk Operating System: Concept of Files and Directories, Internal commands, External commands, Batch Files, Filters, Redirection, Macros, Wild Card character Booting Process, Configuration Files (Config.Sys), General Understanding Of Facilities, Features Of Windows Explorer, Control Panel Setting, Accessories, Recycle Bin.

SECTION–C

Computer Virus: Prevention, Detection, Cure.

Word Processing Concepts: Definition, Benefits, Facilities & Features in general.

MS - Office 97: Word processing using MS-WORD, File handling, Editing, Formatting, spell checking, Mail merge & Table handling & Insertion, importing, exporting & object linking embedding, printing operation.

SECTION–D

MS-Excel 97: Spreadsheets, Entering data & selecting cells, editing worksheet data, formatting worksheet, creating Formulae, function & charts /graphs, multi operation, data base management.

MS Power Point: Creating & saving presentation templates & view (slide view, notes view, outline view, slide show) Formatting text, slides & graphs, animations, slides transition, multi operation.

Text Books:

1. A.L.STEVENS: Teach Yourself Windows.
2. JONATHAN KAMIN: DOS-7.
3. R.K.TAXALLI: Intro to software package, Galgotia publication.
4. RAJIV MATTUS: dos quick reference, Galgotia.
5. RAJIV MATTUS: Learning window 98 step by step BPB publication
6. LONNIE .E. MOSELEY& DAVID M.BOODEY: Mastering office 97

OPERATING SYSTEM (AUPGDCA - 103)

Credits- 4 (L-3, T-1)

Objective: To understand the operating system concept. To get to know about different characteristics of operating system.

Course Outcomes:

- To identify the role of different components of operating system
- To implement various strategies for task management in operating system
- To explain various implementation issues in operating system

Course Content:

SECTION–A

Introduction: Definition Of The Operating System, Functions Of An Operating System, Different Types Of Systems - Simple Batch System, Multi-Programmed Batched System, Time Sharing System, Personal Computer Systems, Parallel Systems, Distributed Systems, Real Time Systems.

SECTION–B

Process Management: Process- Process Concept, Process Scheduling, Operation On Processes, Cooperating Processes, Threads, Inter-Process Communication, CPU Scheduling–scheduling criteria, scheduling algorithms – FCFS, SJF, priority scheduling, round robin scheduling, multilevel queue scheduling, multilevel feedback queue scheduling, multiple processor scheduling, real time scheduling.

Deadlocks: Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock.

SECTION–C

Memory Management: Logical & physical address space, Swapping, Continuous Allocation (single partition, multiple partition), internal, external fragmentation, Paging, Segmentation, Segmentation With Paging, Virtual Memory, Demand Paging, Performance Of Demand Paging, Page Replacement, Page Replacement Algorithms– FIFO, optimal, LRU, LRU approximation algorithms, counting algorithms, Thrashing, Demand Segmentation.

SECTION–D

File System Implementation: File System Structure, Allocation Methods contiguous allocation, linked allocation, indexed allocation.

Secondary Storage Structure: Disk Structure, Disk Scheduling, FCFS, SSTF, SCAN, C-SCAN, Look Scheduling, Selection of A Scheduling Algorithm, Disk Management-disk formatting, boot block, bad blocks.

Text Books:

1. Silberschatz, Galvin “Operating System Concepts”, Addison Wesley Publishing Company, 1989.

Reference Books:

1. William Stallings, "Operating Systems", Macmillan Publishing Company.
2. Deitel H.M., "An Introduction To Operating System", Addison Wesley Publishing Company, 1984.
3. Tanenbaum, A.S., "Modern Operating System", Prentice Hall of India Pvt. Ltd. 1995.

COMPUTER ORGANISATION AND ARCHITECTURE (AUPGDCA - 104)

Credits- 4 (L-3, T-1)

Objective: To understand the basic computer organization and design. Also the concept of input-output and memory management.

Course Outcomes:

- To learn about the evolution of computers
- To implement architectural design of computer

Course Content:

SECTION–A

Basics: Organization & Architecture, Structure & Function, A brief history, mechanical & electromechanical ancestors, First, Second, Third & later generations, Von - Neumann Machine, Block diagrams of computer system.

Register transfers & micro-operations: Register Transfer Language, Register transfer, Bus & memory transfers, Arithmetic loops, Logic loops, Shift loops, Arithmetic, logic, shift unit.

SECTION–B

Basic computer organization & design: Instruction codes, Computer registers, Computer Instructions, Timing & Control, Instruction cycle, memory reference instruction, I-O interrupt, Design of basic computer, Design of accumulator logic.

Micro-programmed Control: Control Memory, Address sequencing, Design of control unit.

SECTION–C

Central Processing Unit: General Register Organization, Stack organization, Instruction formats (zero, one, two, three), Address Instructions, Addressing Modes (direct, indirect, Immediate, relative, indexed), Data transfer & manipulation, Program control.

Computer Arithmetic: Addition & Subtraction, Multiplication algorithms, Division Algorithms, Floating point arithmetic operations.

SECTION–D

IO Organization: Peripheral devices, I/O interfaces, asynchronous data transfer, Modes of Data transfer, Priority Interrupts, DMA, I-O processors, Serial Communication.

Memory Organization: Memory Hierarchy, Main Memory, Associative Memory, Cache Memory, Virtual Memory, Memory management hardware.

RISC: Instruction execution characteristics, Use of large register files, Computer based Register optimization, Reduced instruction set architecture, RISC pipeline.

Text Books:

1. Morris M. Mano: Computer System & Architecture: PHI.
2. Stallings & Williams: Computer Organization & Architecture: Maxwell Macmillan.

Reference Books:

1. V.Rajaraman & Radhakrishnan: Introduction to Digital Computer Design: PHI
2. P.Pal Chowdhary: Computer Organization & Design: PHI

FUNDAMENTALS OF PROGRAMMING USING C (AUPGDCA – 101 (L))

Credits- 1(P-2)

PRACTICAL LIST

1. Write a program to swap the values of two numbers.
2. Write a program to find out whether the number is even or odd.
3. Write a program to find the largest number among three numbers.
4. Write a program to find the factorial of a number.
5. Write a program to find the factorial of a number using recursion.
6. Write a program to find Fibonacci series.
7. Write a program to count number of digits in an integer.
8. Write a program to sum the digits of a number and reverse the number.
9. Write a program to check whether a number is prime or not.
10. Write a program to calculate average of numbers using arrays.

PC SOFTWARE (AUPGDCA – 102 (L))

Credits- 1(P-2)

PRACTICAL LIST

1. Introduction to MS – Word, word processing etc.
2. Introduction to Document previewing.
3. Introduction to Formatting of document via find and replace.
4. Introduction to Mail Merge.
5. Converting a word document into various formats.
6. Use of presentation tools.
7. Introduction to MS – Excel, spreadsheets etc.
8. Inserting and deleting of data.
9. Introduction to mathematical operations.

SEMESTER – II

DATA AND FILE STRUCTURE (AUPGDCA - 201)

Credits- 4 (L-3, T-1)

Objective: To understand the concepts of arrays, linked list, stacks, queues and tree structures.

Course Outcomes:

- To find solutions to various problems using different data structures
- To create computer based solutions to various real - world problems

Course Content:

SECTION–A

Preliminaries: Concept & notation, common operation on data structures, algorithm complexity, time-space tradeoff between algorithm, physical & logical representation of different data structures.

Arrays: Arrays defined, representing arrays in memory, Various operation (traversal, insertion, deletion), Multidimensional arrays, Sparse arrays.

SECTION–B

Linked List: Definition, type (linear, circular, doubly linked, inverted), representing linked lists in memory, advantages of using linked list over arrays, various operations on Linked list (traversal, insertion, deletion).

SECTION–C

Stacks: Definition & concepts of stack structure, Implementation of stacks, Operation on stacks (push & pop), Application of stacks (converting arithmetic expression from infix notation to polish and their subsequent evaluation), quick sort technique to sort an array, recursion.

Queue: Definition & concept of queues, implementation of queue, operation on queues (insert & delete), Type of queues (circular queue, priority queue).

SECTION–D

Trees Structures: Tree, Binary Trees, Tree Traversal Algorithms (Pre-Order, In-Order, Post-Order), Threaded Trees, Trees in various Sorting & Searching Algorithms & their Complexity (Heap Sort, Binary Search Trees).

Sorting & Searching: Selection sort, Bubble sort, Merge sort, Radix sort, Quick sort, Sequential search, Linear search and their complexity.

Text Books:

1. Jean Paul Tremblay & Paul G. Sorenson: An Introduction to Data Structures with Applications: Tata McGraw Hill.
2. Aaron M. Tenenbaum, Yedidyah Langsam, Moshe J. Augenstein: Data Structures using C: PHI

Reference Books:

1. Robert L. Kruse: Data Structures & Program Design: PHI
2. Aho, Hopcroft & Ullman: Data Structures and Algorithms: Addison Wesley.

SYSTEM ANALYSIS AND DESIGN (AUPGDCA - 202)

Credits- 4 (L-3, T-1)

Objective: To understand the basic development techniques to build software. To study the different phases of software development life cycle model (SDLC).

Course Outcomes:

- To apply design and development principles in the construction of software systems of varying complexity.
- To apply current tools and techniques for computing practice
- To explain system controls and quality assurance techniques

Course Content:

SECTION–A

Introduction: Overview of system analysis and design, Business systems concepts, systems development life cycle, project selection, feasibility analysis, design, implementation, testing and evaluation.

SECTION–B

Project Selection: Source of project requests, managing project review and selection, preliminary investigation.

Feasibility Study: Technical and economic feasibilities, cost and benefit analysis.

SECTION–C

System requirement specification and analysis: Fact finding techniques, Data flow diagrams, data dictionaries, process organisation and interactions, Decision analysis, decision trees and tables.

Detailed Design: Modularisation, Module Specification, File Design, System Development Involving Data Basis.

SECTION–D

Systems control and Quality Assurance: Design objectives, reliability and maintenance, software design and documentation tools, topdown, bottomup and variants. Units and integration testing, testing practices and plans. System controls, Audit trails. System Administration and Training, conversion and Operating Plans. Hardware and software selection, Hardware acquisition, memory, processes, peripherals, bench-marking, vendor selection, software selection, operating systems, languages processes, performance and acceptance criteria.

Reference Books:

1. James, A.S.: Analysis and Design of Information Systems, McGraw Hill, 1986.
2. Ludeberg, M., Gulkohl, G. & Hilsson, A.: Information Systems Development: A Systematic Approach, Prentice Hall Intern. 1981.
3. Lesson, M.: Systems Analysis and Design, Science research Associates, 1985.
4. Semprive, P.C.: System Analysis: Definition, Process and Design, 1982.

OBJECT ORIENTED PROGRAMMING & C++ (AUPGDCA - 203)

Credits- 4 (L-3, T-1)

Objective: To understand the object oriented programming using C++. To learn the concepts of loops, structures, functions, objects and classes.

Course Outcomes:

- To understand Object Oriented approach
- To learn programming real – world examples
- To implement C++ programming

Course Content:

SECTION–A

Object oriented programming: Need for OOP, the project oriented approach, characteristics of OOP language-objects, classes, Inheritance, Reusability, Polymorphism, overloading advantage of OOP, the relationship between C and C++.

Programming Basic: Basic program construction, output using cout, preprocessor directive, comments, integer variables, character variables, input with cin type float manipulator, type conversion, arithmetic operators, relational operators.

SECTION–B

Loops and decision: loop- for, while, do, decision-if, if- else, switch, conditional operator, logical operator-AND, OR, NOT, other control statements-break, continue, goto.

Structures and functions: structures, Accessing structure members, structure within a structure, Enumerated Data type, simple functions, passing arguments to functions, Returning values from functions, reference arguments, overloaded functions, variable and storage class.

SECTION–C

Objects and classes: A simple class, classes and objects, specifying a class, using a class, C++ objects as physical objects, C++ objects as data types. Constructors, objects as function arguments, returning objects from functions.

Arrays: Array fundamental-defining array, array elements, Accessing array elements, Initializing arrays, multidimensional arrays, passing arrays to functions, array of objects, strings-string variables, Avoiding Buffer overflow, string constants, array of strings string as class members.

SECTION–D

Operator overloading: Overloading unary operators-the operator keyboard, operator arguments, operator return values nameless temporary objects, limitation of increment operators, overloading Binary operators, data conversion, Pitfalls of operator overloading and conversion.

Inheritance: Derived class and base class, specifying the derived class, accessing base class, members, derived class constructors, overriding member functions, class hierarchies, public and private Inheritance, levels of inheritance, multiple inheritance.

Text Book:

1. Robert Lafore, "Object oriented programming in Turbo C++." Galgotia Publications.

DATABASE MANAGEMENT SYSTEMS (AUPGDCA - 204)

Credits- 4 (L-3, T-1)

Objective: To learn about the database and database management system (DBMS). To understand the concept of relational model and structured query language (SQL)

Course Outcomes:

- To formulate using SQL solution to queries
- To apply the concept of transaction management in DBMS
- To explain various views and join operations in DBMS using SQL

Course Content:

SECTION–A

Introduction: Basic Concepts, Data Modeling for a Database, Records and Files, Abstraction and Data Integration, The Three-Level Architecture Proposal for DBMS, Components of a DBMS, Advantages and Disadvantages of a DBMS. Data Models, Data Associations, Data Models Classification, Entity Relationship Model, Relational Data Model, Network Data Model, Hierarchical Model.

SECTION–B

The Relational Model: Relational Database, Relational Algebra, Relational Calculus. Relational Database Manipulation, SQL, Data Manipulation, Basic Data Retrieval, Condition Specification, Arithmetic and Aggregate Operators, SQL Join: Multiple Tables Queries, Set Manipulation, Categorization, Updates.

SECTION–C

Views: SQL, QUEL, Data Definition, Data Manipulation; QUEL, Condition Specification, Renaming, Arithmetic Operators, Multiple Variable Queries, Aggregation Operators in QUEL, Retrieve into Temporary Relation, Updates, Views.

SECTION–D

Relational Database Design: Relational Scheme and Relational Design, Anomalies in a Database: A Consequence of Bad Design, Universal Relation, Functional Dependency, Relational Database Design.

Concurrency Management: Serializability, Concurrency Control, Locking Scheme, Timestamp-Based Order, Optimistic Scheduling, Multiversion Techniques, Deadlock and Its Resolution. Database Security, Integrity, and Control, Security and Integrity, Threats, Defense Mechanisms, Integrity.

Text Books:

1. Desai, B., “An Introduction To Database Concepts.” Galgotia Publications, New Delhi.

Reference Books:

1. Date C.J., “An Introduction to Database Systems”, Narosa Publishing House, New Delhi.
2. Elimsari And Navathe, “Fundamentals of Database Systems”, Addison Wesley, New York.

DATA AND FILE STRUCTURE (AUPGDCA – 201 (L))

Credits- 1(P-2)

PRACTICAL LIST

1. Write recursive program which computes the nth Fibonacci number.
2. Write recursive program which computes the factorial of a given number.
3. Write a program to implement linear search using arrays.
4. Write a program to implement binary search using arrays.
5. Write C programs that implement stack using arrays.
6. Write C programs that implement stack using linked list.
7. Write C programs that implement Queue using array.
8. Write C programs that implement Queue using linked list.
9. Write a program to implement binary tree.
10. Write a program to implement heap sort using arrays.

DATABASE MANAGEMENT SYSTEMS (AUPGDCA – 204 (L))

Credits- 1(P-2)

PRACTICAL LIST

1. Introduction to SQL and installation of SQL Server / Oracle.
2. Data Types and Create a database.
3. Write the programs to carry out the following operation:
 - a. Add a record in the database.
 - b. Delete a record in the database.
 - c. Modify the record in the database.
4. List all the records of database in ascending order.
5. Use of Alter and Drop Statements.
6. Working with Views, Indexes.
7. Working with Database Security and Privileges: Grant and Revoke Commands, Commit and Rollback Commands.
8. Working with multiple table queries.
9. Working with inner joins.
10. Working with outer joins.

PhD MECHANICAL		
SUBJECT CODE	SUBJECT NAME	COURSE OUTCOMES
AUPH DRM-101	Research Methodology	Able to apply the knowledge of sampling data & conducting various analysis
AURPE-04	Research & Publication Ethics	
AUPHDME-103(A)	Applied Mechanics and Design	Student will able to solve various problems related to physical materials of daily life
AUPHDME-103(B)	Fluid Mechanics and Thermal Sciences	Student will able to solve various problems related to fluid properties, statistics, measurements flow through pipes
AUPHDME-104(A)	Material, Manufacturing and Industrial Engineering	Able to acquire and apply knowledge of material technology, its components and its characteristics Able to apply the knowledge of sampling data in conducting various surveys and analysis
AUPHDME-104(B)	Industrial Tribology	Able to acquire and apply knowledge on industrial tribology, wear friction, lubrication its components and its characteristics
AUPHDME-105	Seminar and Presentation	Student will able to enhance their presentation, discussion, learning & listening skills. Will able to learn argument and questioning techniques etc.
PhD COMPUTER SCIENCE ENGINEERING		
AUPH DRM-101	Research Methodology	Able to apply the knowledge of sampling data & conducting various analysis
AURPE-04	Research & Publication Ethics	
AUPHDCSE-103(A)	Cloud Computing	To explain the core issues of cloud computing such as security, privacy, and interoperability. Choose the appropriate technologies, algorithms, and approaches for the related issues. identify problems, and explain, analyze, and evaluate various cloud computing solutions
AUPHDCSE-103(B)	Advance Software Engineering	Basic knowledge and understanding of the analysis and design of complex systems. Ability to apply software engineering principles and techniques. Ability to develop, maintain and evaluate large-scale software systems.
AUPHDCSE-104(A)	Software Testing and Auditing	Ability to apply software engineering principles and techniques. Ability to develop, maintain and evaluate large-scale software systems.
AUPHDCSE-104(B)	Theory of Computation	To introduce students about the mathematical foundations of computation including