KRISHNASAMY COLLEGE OF SCIENCE, ARTS AND MANAGEMENT FOR WOMEN

DEPARTMENT OF ENGLISH
UG COURSE OUTCOME

INDIAN WRITING IN ENGLISH

COURSE OUTCOME

- Students will be able to examine the concepts of Indian English poetry
- Students will be able to understand the sense of loss of identity in immigrants
- Students will be able to understand the style of Indian poetry.
- Students will be able to inculcate the moral ideas of Swami Vivekananda and scrutinize the writing style adopted by Kushwantsingh
- Students will be able to know about the writing style of GirishKarnad
- Students will become familiar with popular myth

ADVANCED ENGLISH GRAMMAR

COURSE OUTCOME

- Students will be able to know about the types of sentences
- Students will be able to know about sentence pattern and its types
- Students will be able to distinguish the sentence pattern with the help of illustrations
- Students will be able to know about tense and its kinds
- Students will be able to familiar with concord
- Students will be made aware of verb and its kind
- Students will be able to understand phrases and clauses

LITERARY FORMS AND TERMS

COURSE OUTCOME

- Students will be able to understand how poetry requires a different writing style
- Students will be able to understand the traits of lyric, ode and sonnet, elegy and epic
- Students will be able to understand prose as writing with distinct style
- Students will be able to understand the basic traits of biography
- Students will be able to understand drama as a genre with distinct style
- Students will be able to absorb the principles of the absurd drama
- Students will be able to understand novel's characteristics
- Students will be able to understand few important literary terms

BRITISH LITERATURE

COURSE OUTCOME

- Identify the characteristic features of metaphysical poetry
- The students will be able to understand Milton's greatness as a pot
- The students will be able to know the purpose of studying and understand the greatness of books
- The students will be able to understand the social life of 17th century England
- The students will be able to understand Pilgrims Progress as an Allegory

AMERICAN LITERATURE

COURSE OUTCOME

- The student will be able to grasp the lyrical richness embedded in American Poetry
- The student will be able to admire and try to emulate the literature expertise of Walt Whitman, Emily Dickinson, E A Poe and Wallace Stevens
- The students will be able to judge the supremacy of American output and understand the real thoughts of the American writers
- The student will be able to judge the supremacy of American drama and fashion
- The students will come to know the great fiction writers of American Literature Ernst Hemingway

THE SOCIAL HISTORY OF ENGLAND

COURSE OUTCOME

- The comprehensive paper enables the students to understand the subject thoroughly and provides them the scope of their study. Helps them in the long run should go for their higher studies and appear for competitive examination such as NET, SET, TET etc.

PG COURSE OUTCOME

BRITISH POETRY (CHAUCER TO 20th CENTURY)

COURSE OUTCOME

- The student will learn about the metaphysical poets and their style of writings.
- The student will know about the love and lust towards opposite gender
- The student will be able to differentiate the various types of sonnets
- The student will enjoy the beauty of the nature and imagination
- The student will understand the romantic life of the poets
- The student will differentiate the changes of language and style

AMERICAN LITERATURE

COURSE OUTCOME

- The student will come to know the prominent women writers
- The student will able to distinguish the various thinking of American society

- The student will understand transcendentalists and naturalists
- The student will receive the seclusion temper and patriarchal society
- The student will learn the reality of working classes and middle classes living in cities

INDIAN LITERATURE IN ENGLISH

COURSE OUTCOME

- The student will be able to know the importance of translation in various works
- The student will know the sufferings and submissive conditions of people
- The student will know the childhood sufferings and search for identity through short stories
- The student will learn the myths and ethics of Indians
- The student will know how to write the script. The student will be inspired by various motivational writings

ADVANCED LINGUISTICS

COURSE OUTCOME

- The student will follow the proper pronunciation of the words
- The student will learn how to communicate effectively in various places
- The student will easily know the difference between linguistics and non- linguistics
- The student will link the relationship between language and literature
- The student will enjoy the dialects of various places and persons
- The student will think about the multi-lingualism

INDIAN WRITING IN TRANSLATION

COURSE OUTCOME

- To demonstrate the understanding of the social and artistic movements that have shaped theatre and dance as we know it today.
- Apply discipline to specific skills in learning creative performance. Analyze and interpret texts and performances both in spoken and written form.
- This encourages economy of setting, concise narrative and the omission of a complex plot: character is disclosed in action and dramatic encounter but is seldom fully developed.
- Despite its relatively limited scope a short story is often judged by its ability to provide “a complex” or justifying treatment.
- We can demonstrate knowledge and comprehension of major texts and traditions of language and literature written in English as well as their social, cultural, theoretical and historical contexts.

BRITISH DRAMA

COURSE OUTCOME

- Apply discipline – specific skills to the creation of performance

- Draw connections between theatrical practices and social contexts in both modern and pre-modern periods.
- They will demonstrate proficiency in specific skills like: acting, directing, choreography, play-writing or dramaturgy.
- They will be able to analyze, interpret and evaluate the dramatic literature and theatrical productions.

TRANSLATION THEORY IN WORLD LITERATURE

COURSE OUTCOME

- The learner knows about the history of translation and its practice.
- Interpretation of SL and TL can be done.
- Reproduction of the translation and the process and product can be understood.
- Problem and solution of the translation and the equivalence of the translation can be learned.
- Translation is done in practice.

CONTEMPORARY LITERARY THEORY - I

COURSE OUTCOME

It reinforces the student's literary competence.
The students will develop an independent critical persona.
The students can understand the various types of theories
Theories after the 20th century is learned

NEW LITERATURE IN ENGLISH

COUSE OUTCOME

- The Learner can experience the poetry from various countries such as Canada, Australia and New Zealand.
- Can understand the Alienation among the works of the writers who belongs to different regions
- The Criticism of the New Literature is also taught to the students.

SUBALTERN LITERARY STUDIES

COURSE OUTCOME

- The learner can re-explore the political, social and economic role in literature.
- Can understand the feelings of the exploited.
- The analysis of political role in the subaltern literature can be done.
- Critical Analysis of the text and theme can be undertaken by the learner.

INDIAN DIASPORA LITERATURE

COURSE OUTCOME

- The learner can sketch the definition and scope of the Indian Diaspora Literature.
- The meaning and usage of the term "Diaspora literature".
- Diasporic Communities feelings can be understood from the various parts of the countries throughout the world.
- The circumstances for the formulation of Diasporic Communities can be experienced

JOURNALISM AND MASS COMMUNICATION

COURSE OUTCOME

- The students can learn about the history and Ideologies of the print media.
- The Characteristic of the Newspaper is introduced to the learners.
- The learners can acquaint the Techniques and writings of the Print Media.
- The importance of the mass media in the society can be understood by the readers

DEPARTMENT OF MATHEMATICS

Course outcomes

I - B.sc., Mathematics

Subject: Algebra

- Students are exposed to topics like series.
- Students are exposed to topics like number theory.
- Algebra also opens up whole new areas of life problems, such as graphing curves that cannot be solved with only foundational math skills

Subject: Trigonometry

- It aims to develop computational skills.
- Trigonometry is used to set directions such as the north south east west.
- ***Trigonometry*** Can Be Used to Measure the Height of a Building or Mountains · Measuring fields, lots, and areas.

Subject: Professional English

- Improve your vocabulary, your grammar, and your writing skills at the same time.
- Learn English more quickly, lots of reading is important.
- Input brain gets about how the language works.

Subject: Calculus:

- It increases the knowledge in the areas of differential and integral calculus.
- Calculus is used in every branch of the **physical sciences**, actuarial science, and computer science.

Subject: Analytical Geometry

- To deepen the knowledge of the students in various concept of analytical solid geometry.
- Analytic geometry is used in physics and engineering, and also in aviation, rocketry, space science, and spaceflight.

Subject: Mathematical Statistics

- To apply statistics methods for mathematical problem.

II - B.sc., Mathematics

Subject: Differential Equations

- To expose to different technique of finds solution to these equations.
- The primary purpose of the differential equation is the study of solutions that satisfy the equations and the properties of the solutions.

Subject: Vector Analysis& Fourier Analysis

- To develop deep understanding of key concept followed by problems of applied natural.
- This will lead to post graduate studies and research in par as well as applied maths.

Subject: Linear Programming

- To improve the skills of solving very common problems which we come across in various field.
- Linear programming is used for obtaining the most optimal solution for a problem with given constraints.

Subject: Numerical methods

- It deals with solution of numerical differentiation, Integration, Difference equation and algebraic equations.
- **Numerical analysis** is the study of algorithms that use numerical approximation (as opposed to symbolic manipulations) for the problems of mathematical analysis.

Subject: Mathematics for competitive examinations

- To introduce the concept of mathematics with embassies on analytical ability
- Computational skill needed in competitive examinations.

III - B.sc., Mathematics

Subject: Abstract Algebra

- These algebraic structures have applications in mathematical physics, chemistry and computer science.
- It provides another way to look at the same problems of classical algebra.

Subject: Real Analysis

- To understand various limiting behaviour of sequence and series and to enhance the mathematical maturity.

Subject: Complex Analysis

- To gain the knowledge about the complex number system, complex function and integration.

Subject: Statics

- To development of skills, information of suitable mathematical models and problem solving technique.

Subject: Dynamics

- To provide models for some real life problems and it develops logical deduction and interpretation.

Subject: Graph Theory

- To study and develop all the concept of graphs matching, covering and planer graph.

Subject: Linear Algebra

- To study the algebraic structure of vector space and linear transformation.

Subject: Programming in C - Language

- To develop programming skill in the computer language c.

Subject: Operations Research

- To develop computational skill and logical thinking in formulating industry oriented problems.

Subject: Fuzzy Mathematics

- To know the fundamentals of fuzzy algebra and application of fuzzy technology.

I M.sc., Mathematics

Subject: Algebra

- To introduce the concept and to develop working knowledge on class equation and real quadratic forms.

Subject: Real Analysis

- To work comfortably with functions of bounded variation of convergence and uniform convergence.

Subject: Ordinary Differential Equations

- To develop the strong back ground on finding solutions to linear differential equations.

Subject: Differential Geometry

- It introduces space curves and there intrinsic properties of surface and geodesic.

Subject: Graph Theory

- To study and develop the concepts of all graphs connectivity, cycling.

Subject: Partial Differential Equations

- To introduce to the students the various types of partial differential equations and how to solve the equations.

Subject: Mechanics

- To study the mechanical systems under generalise co-ordinate systems.

Subject: Programming in C++

- Files store data permanently in a storage device.
- Learn file handling, the output from a program can be stored in a file.

II M.Sc., Mathematics

Subject: Complex Analysis

- To study the Cauchy integral formula, definite integral and harmonic functions.

Subject: Topology

- To study topological spaces connectedness and compactness.

Subject: Operations Research

- It aims to introduce decision theory, PERT,CPM and maintenance problems.

Subject: Fluid Dynamics:

- It aims to discuss kinematics of fluid, three dimensional flows and viscous flows.

Subject: Functional Analysis

- To study the details of Banach and Hilbert spaces and to introduce Banach Algebras.

Subject: Difference Equations

- To introduce the process of discretization, discrete version of differential equations and solutions of difference equations.

Subject: Number Theory and Cryptography

- This aims to give elementary ideals from number theory which will have applications in cryptography.

DEPARTMENT OF B.C.A
CBCS PATTERN (With effect from 2020-2021)
COURSE OUTCOME

Programming in C

After the successful completion of this course, students will be able to

- Understand the basics of C programming
- Write, compile and debug programs in C language.
- Use different data types in a computer program.
- Design programs involving decision structures, loops and functions with call by value and call by reference
- Illustrates the use of pointers and Structures.
- To perform basic operations like create/update on basic data files.

Environmental studies

Creating awareness among the students about the importance of environment, the effect of technology on the environment and ecological balance is the important aim of the course.

After the successful completion of this course, students will be able

- Awareness about the importance of environmental studies and methods of conservation of natural resources.
- Explains the structure and function of an ecosystem.
- Identify the values and conservation of bio-diversity.
- Demonstrates the causes, effects and control measures of various types of pollutions.
- Select the appropriate methods for waste management.
- Acquire the knowledge about various disaster management methods

Programming in C lab

This course is designed to provide a practical knowledge of how to write, compile and debug programs in C language. After the successful completion of this lab Course, students will be able to:

- Enhance the analyzing and problem solving skills by writing programs in C.
- Draw flow charts and develop a well documented and indented program according to coding standards.
- Learn to debug a given program and execute the program
- To implement Array, Function and Pointers.

C++ & Data structure

This course is designed to provide more knowledge about C++ & Data structures.

- This emphasizes more about C++, which provide students a clear understanding of object-oriented concepts & its programming through C++. Also, it explains various data structures & operations performed using algorithm and examples.

C++

After the successful completion of this course, students will be able to

- Acquire the basic knowledge on Object Oriented concepts.
- Build applications using Object Oriented Programming Concepts.
- Demonstrate the differences between traditional imperative designs and object oriented design.
- Elaborate class structures as fundamental, modular building blocks.
- Understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code.
- Write small/medium scale C++ programs with simple graphical user interface.
- Understand the file handling and error handling mechanisms in C++.
- Get knowledge to use strings and Streams in C++.

Data structure

After the successful completion of this course, students will be able to

- Demonstrate various data structures & its operations using algorithms.
- Demonstrate understanding of the abstract properties of various data structures such as stacks, queues, lists, trees and graphs and Use various data structures effectively in application programs.
- Demonstrate understanding of various sorting algorithms, including bubble sort, insertion sort, selection sort, heap sort and quick sort.
- Illustrates the various applications of data structures like infix to postfix conversion.
- Demonstrates more about linked lists, doubly linked lists & its operations.
- Understand and apply fundamental algorithmic problems including Tree traversals, Graph traversals, and shortest paths.
- Gain knowledge about Hashing and Collisions and B- Trees.

C++ & Data structure lab

This course is designed to provide a practical knowledge of how to write, compile and debug programs in C++ language. It is also used to solve problems and implement data structure algorithms in C++.

After the successful completion of this lab Course, students will be able to

- Build applications using Object Oriented Programming Concepts.
- Acquire knowledge about the basic concept of writing a C++ program.
- Understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code.
- Get practical knowledge about the application of data structures.
- Implement linked list data structure to solve various problems.
- Apply graph and tree traverse technique to various applications.
- Understand and apply various data structure such as stacks, queues, trees and graphs to solve various computing problems using C++-programming language.
- Various sorting techniques can be implemented using C++ programs.

Value Education

This course is designed to provide moral values to the students. It also inculcate

After the successful completion of this lab Course, students will be able to

- Explains the concept of human values
- Explains about the Components, structure & responsibility of family
- Reveals about status of women in society
- Reveals about ethics on family & society
- Demonstrates about psychology of children and youth
- Explains personality development & leadership qualities
- Demonstrates about social values & its awareness
- Explains about environmental issues

Programming In Java

- Knowing about a General-purpose and Purely object-oriented programming language including data types, control statements, and classes
- Secured, well-suited for internet programming using applets and GUI-based
- Students are able to know about a General-purpose and Purely object-oriented programming language including data types, control statements, and classes
- Students are able to Secured, well-suited for internet programming using applets and GUI-based

E Commerce

- Students gain knowledge about commerce through electronic medium and information system.
- Knowing about the concepts of security and basic knowledge of E-Payments.
- Students gain knowledge about EDI and trading relationship.

Web Technology

- Introducing the concepts of control statements and looping statements in VB-Script, Java Script, .ASP.
- Specifying the concepts of cookies in Java Script.
- Introducing the concepts of OLEDB connections.

Introduction to Information Technology

- Students understand Major components of Computer System and its working principles.
- Students learn and understand the Role of an Operating System and basic terminologies of networks.
- Students understand how the Information Technology aids for the Current Scenario.
- Students understand the Computer Software.
- Students understand internet applications

Programming In Java Lab

- Gain knowledge about OOPs concepts.
- To understand the concepts of Layout Manager.
- Build applications using Applets

- Implementation of Exception handling, Multi threading and IO streams.
- Implementation of Database connectivity

Relational Database Management Systems

- Describe the database architecture and its applications Sketch the ER diagram for real world applications Uses various ER diagram for a similar concepts from various sources.
- Discuss about the relational algebra and calculus Construct various queries in SQL and PL/SQL Compiles various queries in SQL, Relational Calculus and Algebra.
- Describe the various normalization forms Apply the normalization concepts for a table of data Practices a table and implement the normalization concepts.
- Explain the storage and accessing of data.
- Illustrate the query processing in database management. Define the concurrency control and deadlock concept

Relational Database Management Systems Labs

- Design and Implement a database schema for a given problem domain.
- Populate and Query a database using SQL DDL/DML Commands.
- Build well formed in String Date/Aggregate Functions.
- Design and Implement a database query using Joins, Sub-Queries and Set Operations.
- Program in SQL including Objects (Functions, Procedures, Triggers)

Enterprise Resource Planning

- The students are able to understand the business process, business function.
- The students are able to understand the exchange of information and prepare balance sheets.
- Gain knowledge about inter relationship concepts and techniques.

Wireless Data Communication

- To understand the concepts of basic OSI layers.
- To understand the concepts of signals and transmission media.
- To understand the basic concepts of error detection and DLC
- To understand the Characterize of wireless transmission technologies
- To understand the concepts of Security.

Internet of things

This course presents the Introduction to IoT, M2M, IoT Architecture, IoT Model and Views, IOT protocols and Real world design constraints enable the students to learn the concepts of IoT.

- To understand the fundamentals of Internet of Things.
- To understand the M2M and IoT Architecture
- To understand the IoT Model And Views

- To learn about the basics of IOT protocols.
- Analyze applications of IoT in real time.

Internet Technology

- Students understand the Fundamentals of Internet, Connectivity and its Resource Requirements.
- Students understand the Internet Technology and its applications
- Students understand the basis of WWW and Web Browsers.
- Students learn how to Mailing system and applications of Internet.
- Students Understand relay chat that is how to read e- contents.

Mobile Applications Development

This course aims to provide the students with a detailed knowledge on Mobile Application Development and Deployment about Android programming from basics to building mobile applications for digital world.

- Determine solutions using problem solving principles, logic and systematic methodologies.
- Evaluate the architecture and principles of operation of computer systems and networks.
- Synthesize principles and theories of computer science and software engineering for application to different computing paradigms.
- Design and develop software systems for various application domains.
- Design and develop secure enterprise-grade information systems.
- Manage the development of software systems through a variety of development processes and methodologies.
- Design effective user interfaces using human computer interaction principles.
- Synthesize new knowledge in the field of computer science by using appropriate research methodologies.

Operating System

Enable the student to get sufficient knowledge on concepts, functions and various system resources of operating systems.

- Demonstrates different types of modern operating systems and their structure of implementation and applications.
- Understand the difference between process & thread, issues of scheduling of user level processes / threads and their issues & use of locks, CPU scheduling and multithreaded systems.
- Gain knowledge about the concepts of deadlock in operating systems and how they can be managed / avoided and implement them in multiprogramming system.
- Demonstrate the design and management concepts along with issues and challenges of main memory, virtual memory and file system.

- Understand the types of I/O management, disk scheduling, protection and security problems faced by operating systems and how to minimize these problems.
- Illustrates the case study of UNIX operating system.

Design and Analysis Of Algorithms

- The objective of the course is to teach techniques for effective problem solving in computing.
- The use of different paradigms of problem solving will be used to illustrate clever and efficient ways to solve a given problem.
- In each case emphasis will be placed on rigorously proving correctness of the algorithm.

Data Mining

To enable the students to understand the importance of Data Mining and its techniques with recent trends and tools.

- Understand the data extraction and transformation techniques.
- List the association rule mining techniques and understand association mining to correlation analysis, constraint based association mining.
- Understand operational database, warehousing and multidimensional need of data base to meet industrial needs.
- Understand the components of warehousing, classification methods and clustering analysis.
- Identify and understand the Business analysis, query tools and application, OLAP etc.

Information Security

To enable the student to understand various methodologies available for securing information.

- The basic concepts of Information Security
- The legal, ethical and professional issues in Information
- To know about risk management
- To understand the technological aspects of Information Security
- To understand the concepts of Cryptography and Hacking methods

Software Testing

To study the concepts of software engineering with the aim of acquiring skills to develop Software applications, following all standardized procedures and techniques.

- To understand the concept of software testing, and software quality
- To learn to inspect and detect errors by going through each and every code segment
- To gain knowledge of various functional and structural testing techniques
- To understand basic concept of Software Management tools and object oriented testing
- To understand basic concept of Software quality and software quality assurance

Software Engineering

This course is intended to provide the students with an overall view over Software Engineering discipline and with insight into the processes of software development.

- Introduces the concepts and methods required for the construction of large software intensive systems.
- Gets the idea of choosing the Requirements in Software Engineering.
- Gives an understanding the concept of Data Engineering.
- To impart knowledge on Testing and Debugging.
- To enable the students to learn the basic of Project Management & Scheduling.

Open Source Software

To study the concepts of open source techniques that can be effectively applied in practice about HTML5, JavaScript, PHP, and PERL.

- To understand the concept of HTML, HTML5 and CSS.
- To learn to inspect and detect errors by going through each and every code segment.
- To understand basic concept of Java Script and MySQL.
- To understand basic concept of PHP
- To understand basic concept of PER

Python Programming

- Students are able to explore the fundamental concepts of Python
- Students are able to understand Basics of Python programming language
- Students are able to solve simple problems using Python
- Students are able to acquire fundamental knowledge and skills on Python Programming
- Students are able to understand the nuances of this language.
- Students are able to know the usage of modules and packages in Python
- Students are able to familiarize with file concepts in Python
- Students are able to familiarize with web concepts using Python.

Big Data Analytics

- To explore the fundamental concepts of big data analytics.
- To learn to analyze the big data using intelligent techniques and mining data stream.
- To understand the applications using Map Reduce Concepts.
- To explore the fundamental concepts of big data analytics.
- To learn to use various techniques for mining data stream.
- To learn the Big data Business Perspective
- To understand the applications using Map Reduce Concepts.

Cryptography

- Understand various Security practices and System security standards
- Understand different cryptographic operations
- Understand the various Authentication schemes to simulate different applications.

- Understand OSI security architecture and classical encryption techniques**.**
- Understand the different cryptographic operations of symmetric cryptographic algorithm**s.**
- Understand the different cryptographic operations of Public key cryptographic algorithms.
- To make use of application protocols to design and manage a secure system.
- To learn the configuration and manage E–mail and WLAN Security.

Digital image processing

This course enables the student knowledge about various image processing concepts like enhancement, restoration, segmentation, compression and recognition.

- To know the basics of Digital image and techniques.
- To understand various Image enhancement ideas.
- To understand Image restoration techniques.
- To understand degrees of image resolution and compression methods.
- To understand concepts of image representation and recognition.

Artificial intelligence

To induce the innovative ideas of students, related to Robotics, Artificial Intelligence and Machine Learning. This course enables the student's level to compete in the world of information and technology era.

- To know the basics of Artificial Intelligence.
- To Understand the Methods and algorithms in AI.
- To learn to represent knowledge in solving AI problems.
- To Understand Statistical logics and know about Software agents.
- To learn how Machine learning is related to AI.

System software

To have an understanding the basic design of assemblers, loaders, linkers, macro processor.

- To understand the basic concepts of system software
- Ability to trace the path of a source code to object code and to executable file
- To design and implementation of loaders and linkers
- To understand the concepts of macro processor
- Ability to analyze the functions of compilers

Mobile computing

- To enable the students to learn the basic functions, principles and concepts of mobile computing Systems.
- To understand the concepts in Mobile Applications.
- To understand the concepts of Mobile Computing Services.
- To enable the Students to learn Challenges of wireless communication, wireless networks, protocols and voice networks.

Object Oriented Analysis and Design

- The students learn the basics of OO analysis and design skills.
- Study about appropriate object model and design patterns.
- Gain knowledge about UML analysis and design patterns.
- To learn development of applications in mobile computing platform.

DEPARTMENT OF PHYSICS

Course Title: Mechanics

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals of vectors and able to formulate the expression for projectiles.
- After studied unit-2, the student will be able to study the dynamics of rigid bodies in terms of moment of inertia and also able to fine the moment of inertia of different systems.
- After studied unit-3, the student will be able to define work, energy and also able to understand the oblique impact between smooth spheres.
- After studied unit-4, the student will be able to learn the elastic property of the solid materials and also derive the relation between elastic modules.
- After studied unit-5, the student will be able to explain the concept of gravitation and able to know the principles of rocket and satellite

Course Title: Heat and Thermodynamics

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals of heat and capacity able to explain the kinetic theory of gases.
- After studied unit-2, the student will be able to describe the conduction and radiation of heat ane also able to study the Joule-Kelvin effect based on the low temperature phenomena and its applications.
- After studied unit-3, the student will be able to cite the laws of thermodynamics and their applications
- After studied unit-4, the student will be able to explore the equations governing second law of thermodynamics and entropy
- After studied unit-5, the student will be able to explain Phase-space, micro and macro states and able to distinguish MB, FD and BE statistics

Course Title: Electricity, Magnetism & Electromagnetism

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals coulomb's law and Gauss's law and also able to derive the expression for electric potential, capacitance of a parallel plate capacitor.
- After studied unit-2, the student will be able to derive the expression for temperature Coefficient resistance of a coil using Carey Foster's Bridge and able to know how to calibrate the ammeter and voltmeter, able to learn the thermo electricity concept.
- After studied unit-3, the student will be able to explain the concepts of self and mutual inductance using electromagnetic induction phenomenon.

- After studied unit-4, the student will be able to distinguish the dia, para and ferro Magnetic materials based on different theories.
- After studied unit-5, the student will be able formulate the expression for displacement current and Maxwell's equations.

Course Title: Basic Electrical Technology

Course Outcomes

- After studied unit-1, the student will be able to know principle of Voltage, Current,
- Resistance, Ohm's law and Electrical safety.
- After studied unit-2, the student will be able to distinguish between cells and batteries and able to explain the different types of batteries.
- After studied unit-3, the student will be able to understand the Wheastone's bridge, Thevenin and Norton's theorem and also able to describe the function of DC generator and motor.
- After studied unit-4, the student will be able to know the fundamentals of alternating currents and voltages and able to differentiate the single phase and three phase connections.
- After studied unit-5, the student will be able to acquire the principle and construction of transformers and its types and also able to demonstrate the function of AC generator.

Course Title: Waves and Optics

Course Outcomes

- After studied unit-1, the student will be able to formulate the equation for plane
- progressive wave and able to understand the concept of simple harmonic motion and other types of waves
- After studied unit-2, the student will be able study the property of surface tension of a
- liquid and know how the surface tension varies with temperature and also able to explain the property of viscosity of a liquid.
- After studied unit-3, the student will be able to describe the different optical of a lens
- system and able to design the eyepieces. Also able to know the phenomenon of
- interference and its applications.
- After studied unit-4, the student will be able to distinguish between Fresnel class of
- diffraction and Fraunhofer class of diffraction. Also formulate the expression for resolving power of telescope, microscope, prism and grating.
- After studied unit-5, the student will be able to explain the phenomenon of polarization and able to study the double refraction in uniaxial crystals. Also they can define optical activity, specific rotation and know the applications of polaroids.

Course Title: Physics Workshop Skills

Course Outcomes

- After studied unit-1, the student will be able to test the instruments with specific skills
- After studied unit-2, the student will be able to express the functions and working of Linear power supply.
- After studied unit-3, the student will be able to know the basics of analytical instruments and how to calibrate it.

- After studied unit-4, the student will be able to explain mobile communication and radar communication system.
- After studied unit-5, the student will be able to demonstrate the principle and working of various biomedical equipment.

Course Title: Atomic and Molecular Physics

Course Outcomes

- After studied unit-1, the student will be able to know the properties of cathode rays and positive rays. Also will be able to study the determination of specific charge of an electron.
- After studied unit-2, the student will be know the different atom models and can get an idea about coupling schemes..
- After studied unit-3, the student will be able to study the Zeeman effect, Paschen Back effect and Stark effect.
- After studied unit-4, the student will be able to know the basic idea of photoelectric effect and can able to derive the equation for Einstein's photoelectric equation.
- After studied unit-5, the student will be able to study the rotational and vibrational energy of a molecule and also learn the Infrared spectra, Raman Effect and Laser.

Course Title: Relativity and Quantum Mechanics

Course Outcomes

- To teach the fundamental aspects of relativity and special theory of relativity.
- Ability to understand the concepts of matter waves and to study the phase velocity and group velocity.
- To learn the Heisenberg's Uncertainty Principle and to derive the time dependent and time independent Schrödinger equation.
- To apply the Schrödinger's equation to various quantum mechanical systems.

Course Outcomes

- After studied unit-1, the student will be able to know the frames of reference and able to formulate the Galilean Transformation equations and Lorentz Transformation equations.
- After studied unit-2, the student will be understand the matter waves and can derive an equation for de Broglie wavelength. Also able to distinguish between phase velocity and group velocity and demonstrate Davison &Germer experiment.
- After studied unit-3, the student will be able to state the Heisenberg's Uncertainty
- Principle and able to derive the time dependent and time independent Schrödinger's equations.
- After studied unit-4, the student will be able to know the basic idea of photoelectric effect and can able to derive the equation for Einstein's photoelectric equation.
- After studied unit-5, the student will be able to learn postulates of quantum mechanics, operators and also able to acquire knowledge on Dirac's bra and ket notations.

Course Title: Basic and Applied Electronics

Course Outcomes

- After studied unit-1, the student will be able to classification of solids on the basis of band theory and know the construction, working and applications of semiconducting diodes and transistors.
- After studied unit-2, the student will be able to design the RC-coupled amplifier and to study its frequency response curve. Also students will be able to classify the power amplifiers, to learn the h-parameters and to able to design oscillator circuits.
- After studied unit-3, the student will be able to understand the multivibrators using transistors and can able to study the different wave shaping circuits.
- After studied unit-4, the student will be able to know the basic idea of integrating circuits and able to fabricate diode, transistors, resistor and capacitors. Also students will be study the structure of operational amplifier and its parameters.
- After studied unit-5, the student will be able to analyze the different applications of op-amp circuits like adder, subtractor etc and also able to demonstrate 555 Timer and its applications.

Course Title: Digital Electronics

Course Outcomes

- After studied unit-1, the student will be able to gain knowledge between different types of number systems, and their conversions. Also able to study the various Binary codes and to design basic logic gates.
- After studied unit-2, the student will be able to describe laws of Boolean Algebra, De Morgan's theorems. Also able to demonstrate K-Map and simplification of logic expressions and to design universal gates using NAND and NOR gates.
- After studied unit-3, the student will be able to explain the Multiplexer, Demultiplexer and Decoder. Students can know the functions of various Flip-Flop circuits.
- After studied unit-4, the student will be able to conceptualize the classification of registers and counters.
- After studied unit-5, the student will be able to know how to convert digital to analog and analog to digital using different methods.

Course Title: Cell Phone Technology

Course Outcomes

- After studied unit-1, the student will be able understand the cellular communication system.
- After studied unit-2, the student will be able to study the smart phones and various mobile standards like 1G,2G, etc.
- After studied unit-3, the student will be able to learn chip level information and soldering and desoldering the various components.
- After studied unit-3, the student will be able to understand the network problems and SIM card problems and to learn the trouble shooting process.
- After studied unit-5, the student will be able to know how to use the ultrasonic cleaner, mobile virus and other service tools.

Course Title: Nuclear and Particle Physics

Course Outcomes

- After studying Unit 1, the student will have a clear idea about the fundamentals of nucleus and its structure.
- After studying Unit 2, the student would have understood the concept of radioactivity.
- After studying Unit 3, the student will be having a clear understanding of the design and working of particle accelerators and detectors.
- After studying Unit 4, the student will be having a thorough understanding about the nuclear reactions and nuclear reactors.
- After studying Unit 5, the student would have gained adequate knowledge about the elementary particles like pions, muons, hyperons etc.

Course Title: Solid State Physics

Course Out Comes

- After studied unit-1, the student will be able to Distinguish between crystalline and amorphous solids, Classify the crystal systems and able to understand the crystal structure
- After studied unit-2, the student will be able to Relate the X-ray diffraction with crystal structure and explain the various differences in properties of solids due to crystal imperfections
- After studied unit-3, the student will be able to understand the different types of bonding in crystals, apply this to understand the optical , specific heat capacity of solids
- After studied unit-4, the student will be able to gain the knowledge of magnetism in Materials and able to distinguish different magnetic materials. Also able to understand the phenomena of superconductivity and their applications
- After studied unit-5, the student will be able to explain the electric polarization in dielectric materials and also gain the knowledge in dielectric breakdown mechanisms in a dielectric material.

Course Title: Material science

Course Outcomes

- After studied unit-1, the student will be able to know the origin engineering materials and its classification. Also students will be able to learn the bonding character and its Properties

- After studied unit-2, the student will be able to describe mechanical properties like elastic behaviour and thermal properties like heat capacity, thermal conductivity etc.
- After studied unit-3, the student will be able to know the basics of polymers, ceramics and nano material.
- After studied unit-4, the student will be able to explain definition and types of smart materials.
- After studied unit-5, the student will be able to conceptualize the energy storage materials.

Course Title: Medical physics

Course Outcomes

- After studying Unit 1, the student will have a clear idea about the fundamentals of the production and characteristics of X-rays.
- After studying Unit 2, the student would have understood the concept of radiation units and radiation detectors.
- After studying Unit 3, the student will have a clear understanding of the design and working of Medical imaging techniques and computer tomography scanner.
- After studying Unit 4, the student will be having a thorough understanding about the diagnostic nuclear medicine and some medical instrumentation.
- After studying Unit 5, the student would have gained adequate knowledge about the protective measures to be undertaken in radiation therapy.

Course Title: Weather forecasting

Course Outcomes

- After studied unit-1, the student will be able to study the atmosphere and its physical structure and also to know the variation of pressure and temperature with height.
- After studied unit-2, the student will be able to describe the measurement of wind speed, direction humidity, rainfall and can state the radiation laws.
- After studied unit-3, the student will be able to explain the global wind systems and able to know thunderstorms and cyclones.
- After studied unit-4, the student will be able to conceptualize the classification of climate, ozone depletion, acid rain and environmental hazards due to climate change.
- After studied unit-5, the student will be able to understand the analysis and historical background of weather forecasting and know the predictability, probability of forecasts.

Course Title: Properties of matter and acoustics

Course outcome

- After studied unit-1, the student will be able to study the concept of Hooke's law, Poisson's ratio and determination of modals
- After studied unit-2, the student will be able to understand the bending moments of beams
- After studied unit-3, the student will be able derive the surface tension and viscosity with respect to temperature

- After studied unit-4, the student will be able derive the reverberation and sabine's formula
- After studied unit-5, the student will be able explain ultrasonic testing and various NDT testing methods

Course Title: Thermal physics and statistical methods

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals of conduction , radiation and able to explain the widemann's franz law and black body radiation.
- After studied unit-2, the student will be able to describe the liquefaction of helium and hydrogen, also able to study the joule Kelvin effect based on the low temperature phenomena and its applications.
- After studied unit-3, the student will be able to cite the laws of thermodynamics and their applications
- After studied unit-4, the student will be able to explore the equations governing third law of thermodynamics and entropy
- After studied unit-5, the student will be able to explain Phase-space, micro and macro states and able to distinguish MB, FD and BE statistics

Course Title: Electricity and magnetism

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals coulomb's law and Gauss's law and also able to derive the expression for electric potential, capacitance of a parallel plate capacitor.
- After studied unit-2, the student will be able to derive the expression for temperature coefficient resistance of a coil using Carey Foster's Bridge and able to know how to calibrate the ammeter and voltmeter.
- After studied unit-3, the student will be able to explain the thermoelectricity concepts.
- After studied unit-4, the student will be able to able formulate the expression of faraday's law of electromagnetic induction and coefficient of coupling.
- After studied unit-5, the student will be distinguishing the dia, para and ferro magnetic materials and also able to learn the concepts of magneto statics.

Course Title: Electrical appliances

Course Outcomes

- After studied unit-1, the student will be able to know principles of voltage, current and electric potential.
- After studied unit-2, the student will be able to understand the ohm's law, voltmeter, analog and digital multimeter.
- After studied unit-3, the student will be able to distinguish between AC and DC, single and three phase current, star and delta connections.
- After studied unit-4, the student will be able to able principles and construction of invertors, generators, motors and electrical switches.
- After studied unit-5, the student will be know the fundamental concepts of electric bulbs, water heater, electric iron box and other home appliances

Course Title: Mechanics

Course Outcomes

- After studied unit-1, student will be able to study the dynamics of rigid bodies in terms of moment of inertia and also able to fine the moment of inertia of different systems.
- After studied unit-2, the students will be able to understand the concept of pressure, laws of flotation and production of low pressure using rotary and diffusion of pump
- After studied unit-3, the student will be able to explain the concept of gravitation and able to know the principles of rocket and satellite.
- After studied unit-4, the student will be able to concepts of lagrangian formulation, transformation equation and D'Alembert's principle.
- After studied unit-5, the students will be able to derive the concepts of Hamiltonian formulation and its applications.

Course Title: Electronics Appliances

Course Outcomes

- After studied unit-1, the student will be able to operate the resistors and capacitors in the electric circuits
- After studied unit-2, the student will be able to draw the waveforms and Lissajoue's figures
- After studied unit-4, the student will be able to plot the Zener voltage regulators in both positive and negative voltages
- After studied unit-5, the student will be able to apply the concepts of transmitters and receivers, different types of antennas in MODEM

Course Title: Optics

Course Outcomes

1. After studied unit-1, the student will be able to know the details of different types of lens
2. After studied unit-2, the student will be able study the Michelson interferometer and the refractive index of gases
3. After studied unit-3, the student will be able to describe Frenel and Fraunhofer's diffraction and the resolving power of the telescope
4. After studied unit-4, the student will be able to know the polarization of crystals, Kerr and Faraday Effect.
5. After studied unit-5, the student will be able to explain and apply the phenomenon of Transmission of electromagnetic waves through fibers

Course Title: Atomic and Spectroscopy

Course Outcomes

1. After studied unit-1, the student will be able to know the properties of cathode rays and positive rays. Also will be able to study the determination of specific charge of an electron.
2. After studied unit-2, the student will be know the different atom models and can get an idea about coupling schemes..
3. After studied unit-3, the student will be able to study the Zeeman effect, Paschen

Back effect and Stark effect.

4. After studied unit-4, the student will be able to know the basic idea of photoelectric effect and can able to derive the equation for Einstein's photoelectric equation.
5. After studied unit-5, the student will be able to study the rotational and vibrational energy of a molecule and also learn the Infrared spectra, Raman Effect and Laser.

Course Title: Basic electronics

Course outcome

- After studied unit-1, the student will be to understand the basics of semiconductors, diodes and transistors
- After studied unit-2, the student will be able to describe various rectifiers and amplifiers with its parameters and frequency responses.
- After studied unit-3, the student will be able to explain the various types of oscillators like Hartley, Colpitt's, Wienbridge and its frequency stability.
- After studied unit-4, the student will be able to describe the construction and working of multivibrators, integrating and differentiating circuits
- After studied unit-4, the student will be able to conceptualize the transmission and reception of AM, FM and PM communications.

Course Title: Material science

Course outcome

- After studied unit-1, the student will be able to classify various types of bonds in the materials.
- After studied unit-2, the student will be understood the Gibb's phase rule, phase diagram and mechanism of phase transformations.
- After studied unit-3, the student will able to study the kinetic theory of gases. Also able to analyze various vacuum measuring methods.
- After studied unit-4, the student will be able to gain the knowledge about NDT testing and principle, working of various NDT testing equipments
- After studied unit-4, the student will be able to describe the Piezoelectric, electrostriction and magnetostriction behaviour of materials.

Course Title: Astrophysics

Course outcomes

- After studied unit-1, the student will be able to classify the types of telescopes and its importance in astronomical measurements.
- After studied unit-2, the student will be able to understand the formation of universe through big bang theory. Also know about galaxies and its types.
- After studied unit-3, the student will be able to describe about the different types of stars, black holes, supernovae explosion.
- After studied unit-4, the student will be able to understand the structure of earth and various planets and its importance.
- After studied unit-5, the student will be able explain the astronomical measurements and its unit, celestrial equations.

Course Title: Nuclear Physics and Radiation Physics

Course Outcome

- After studied unit-1, the student will be able learn the liquid drop model and shell model.
- After studied unit-2, the student will be able explain the Geiger Nuttal law and beta decay
- After studied unit-3, the student will be able to describe about synchrotron and GM counter
- After studied unit-4, the student will be able to explain nuclear fission and fusion and the effects of radiation
- After studied unit-5, the student will be able list the types of elementary particles and its properties.

Course Title: Relativity, Quantum Mechanics and Mathematical Physics

Course Outcomes

- To teach the fundamental aspects of relativity and special theory of relativity.
- Ability to understand the concepts of matter waves and to study the properties of wave functions
- Learn to derive the time dependent and independent
- To understand the important concepts of Gauss divergence and curvilinear coordinates
- To learn the special functions and types of differential equations

Course Outcomes

- After studied unit-1, the student will be able to know the frames of references,
    - Michelson Morley experiments, time dilation. And also able to formulate the Lorentz Transformation equations
- After studied unit-2, the student will be understand the matter waves Heisenberg's uncertainty principle and derive the equations of de-Brogile waves.
- After studied unit-3, the student will be able to derive the concepts of time dependent and time independent Schrödinger's equations and its various applications.
- After studied unit-4, the student will be able to know Gauss divergence theorem, green theorem. Also able to derive differential special coordinates like orthogonal, spherical and cylindrical.
- After studied unit-5, the student will be able the beta and gamma functions and various differential equations.

Course Title: Solid State Physics

Course Outcomes

- After studied unit-1, the student will be able to Distinguish between crystalline and amorphous solids, Classify the crystal systems and able to understand the crystal structure
- After studied unit-2, the student will be able to understand the different types of bonding in crystals, apply this to understand the optical , specific heat capacity of solids

- After studied unit-3, the student will be able to Relate the X-ray diffraction with crystal structure and explain the various differences in properties of solids due to crystal imperfections
- After studied unit-4, the student will be able to gain the knowledge of magnetism in materials and able to distinguish different magnetic materials. Also able to understand the phenomena of superconductivity and their applications
- After studied unit-5, the student will be able to explain the electric polarization in dielectric materials and also gain the knowledge in dielectric breakdown mechanisms in a dielectric material.

Course Title: Applied Electronics

Course outcomes

- After studied unit-1, the student will be able understand the parameters, characteristics and importance of FET and UJT
- After studied unit-2, the student will be able to know the operations and parameters of op-amp. Also get the knowledge about AC/DC voltage follower.
- After studied unit-3, the student will be able to apply the applications of op-amp like comparators, Schmitt trigger, Logarithmic amplifiers
- After studied unit-4, the student will be able to analyze the operation and working of 555 timers. Also the students will be able to study the basic principles of analog and Digital phase detector
- After studied unit-5, the student will be able to work out the AD and DC conversion and successive approximation ADC

Course Title: Laser and fiber optic communications

Course outcomes

1. After studied unit-1, the student will be learn the fundamentals of laser, Einstein coefficient, lasing conditions and its levels
2. After studied unit-2, the student will be able to describe operating principles of solids, liquids and gas state laser with examples
3. After studied unit-3, the student will be able to explain the various applications of laser in the field of medicine and industries
4. After studied unit-4, the student will be to know the characteristics, classification of optical fiber, types of optical fiber and its fabrication techniques
5. After studied unit-5, the student will be able to learn the concepts of fiber optic communication, principles of optical detectors.

Course Title: Instrumentation techniques

Course Outcome

1. After studied unit-1, the student will be to know the measurements of Maxwell's inductance bridge, De sauty's bridge.
2. After studied unit-2, the student will be able to study the construction and working of ADC convertors, digital voltmeter, frequency meter and multimeter
3. After studied unit-3, the student will be able to learn the principle, working of CRO, IR, UV, FTIR spectrometer
4. After studied unit-4, the student will be able to demonstrate the principle, working of biomedical equipment's used in our daily life

DEPARTMENT OF COMMERCE

ADVANCED FINANCIAL MANAGEMENT

- Financial Management suited to students wishing to pursue careers as management accountants, management consultants, or those contemplating careers in areas such as investment banking and financial analysis.
- It provides the theoretical framework and skills that accountants and financial managers need to cope with an increasingly complex and global accounting environment.
- Studying financial management at postgraduate level is also popular with people who do not wish to become accountants or work directly in the sector. It is now generally accepted that financial management is an important requirement for managers across all business functions.

ACCOUNTING FOR MANAGERIAL DECISIONS

- Enable the students to know the applications of accounting tools, techniques and concepts in managerial decision making process.
- Provides sound technical knowledge and a broad understanding of the role of accounting and finance in the business world.
- To develop the students skill to analyse the Financial statements

MARKETING MANAGEMENT

- To enhance the understanding of core marketing and marketing segments and targets
- To extent the knowledge of marketing mix and brand equity.
- To facilitate the students to have the deep understanding of marketing channels and value networks and market logistics.

ADVANCED BUSINESS STATISTICS

- To enhance the understanding of multiple correlation and multiple regression
- To expand the knowledge of technique of probability
- To facilitate the students to have the deep understanding on sampling methods, proportion – large and small sample – Z test and T test.

MANAGERIAL ECONOMICS

- This course is intended to provide a basic foundation on the principles of managerial economics and to demonstrate the application of economic theory to business decisions.
- To make the students understand the decision making process of individual consumers and firms.
- To impart conceptual and practical knowledge of managerial economics.

CORPORATE LAWS

- To introduce the concept and importance of business ethics and corporate governance
- To know the facets of ethics management
- To know the ethical values and Indian ethos in Management

HUMAN RESOURCE MANAGEMENT

- This subject provides the platform to the students of management to appreciate the critical managerial functions, processes and tasks of HRM in an organization.
- To become sensitive to the HR Management Processes and to adopt conceptual learning to real-life situations.
- To appreciate the methods and mechanics to bring out the best in people directing their energies towards corporate goals with personal satisfaction.

ADVANCED CORPORATE ACCOUNTING

- To help the students to acquire the conceptual knowledge of the corporate accounting
- To understand the various techniques of preparing the financial statements.

E- COMMERCE

- To gain an understanding of basic concepts, theories and business underlying E-commerce.
- To improve familiarity with current challenges and issues in E- commerce
- To know the concept of Electronic data interchange.

HUMAN RIGHTS

- To understand the basic concepts of hr
- To have an understanding of the relationship between individual, group and national rights

GENERAL SERVICE TAX (GST)

- to equip the students with the knowledge of GST
- to make the students more knowledgeable in the field of GST
- to enable the students to be self employed as tax consultants/ practitioners

ORGANISATION BEHAVIOUR

- To understand and appreciate the fact that why & how of human behaviour in organizations is critical for its success and to orient the managers-to-be to develop people skills to make and run the work-place effective, innovative and stake-holder centric

ADVANCED COST ACCOUNTING

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

SERVICES MARKETING

- To familiarize with the special characteristics of services relevant for marketing
- To analyze the customer satisfaction and complaint management in services
- To evaluate the financial implications of improvement in services,
- To acquaint with CRM application in service marketing.
- To differentiate between product and service businesses and equip for a career in marketing in the service industry.

RESEARCH METHODOLOGY

- To enable the students to know about the information needs of research.
- To introduce the concept of Scientific Research and the methods of conducting Scientific Enquiry.
- To introduce the Statistical Tools of Data Analysis and
- To enable them to conduct a Group Research Study and prepare the report.

DIRECT TAX

- To provide basic knowledge and equip students with application of principles and provisions of Service Tax, VAT, Central Excise, and Customs Laws.

SALES & ADVERTISING MANAGEMENT

- To make the students to understand the Objectives and Functions of Advertising
- To understand and apply concepts and techniques in Personal Selling and Sales Management.
- To understand and apply the dynamics of channel management and the role of out-bound logistics in effective distribution management

INVESTMENT MANAGEMENT

- To familiarize the students with different investment alternatives, introduce them to the framework of their analysis and valuation and highlight the role of investor protection.

B.COM
FINANCIAL ACCOUNTING I

- State the uses and users of accounting information;
- Explain and apply accounting concepts, principles and conventions;
- Record basic accounting transactions and prepare annual financial statements; and
- Analyses interpret and communicate the information contained in basic financial statements and explain the limitations of such statements.
- To acquire accounting knowledge of bills of exchange and other business accounting methods

BUSINESS ORGANISATION

- The course aims to provide basic knowledge to the students about the organisation and management of a business enterprise.
- To acquaint the students with the basics of Commerce and Business concepts and functions and Forms of organisation

CONSUMERISM

- This course provides an understanding for the procedure of redressal of consumer complaints, and the role of different agencies in establishing product and service standards.
- The student should be able to comprehend the interface between business firms and consumers and the consumer related regulatory and business environment

FINANCIAL ACCOUNTING II

Objectives

- The objective of this paper is to help students to acquire conceptual knowledge of the financial accounting and to impart skills for recording various kinds of business transactions
- To understand, analyse and interpret the basic framework of financial reporting.
- To acquire conceptual knowledge of basics of accounting and preparation of final accounts of Sole Trader

OFFICE MANAGEMENT

- To gain knowledge about nature and scope of organisation.
- To gain a knowledge of office equipment and office system.
- To know about office supervisor.

MERCHANT BANKING

- To gain knowledge about merchant banking.
- To import effective knowledge about public issue management.
- To learn about port folio management.

CORPORATE ACCOUNTING I

- To make the student familiar with corporate accounting procedures.
- To impart to the students the expertise in preparation of corporate accounts.

BUSINESS LAWS

- To give an exposure to important commercial laws, the knowledge, that is essential for an understanding of the legal implications of the general activities of a modern business organisation.
- To understand the legal frame work related to contract
- To familiarise about the legal aspects regarding negotiable instruments
- To understand the legal regulations about the company

BANKING THEORY LAW & PRACTICE

- To impart knowledge about the basic principles of the banking.
- To enable the students understand the concepts of Money Market, Capital Market, Stock Market and the recent banking.
- To make the students understand the Human capital effectively utilized for the growth of Indian Economic Development.

BUSINESS ECONOMY - I

- Objective of the course is to acquaint the students with the concepts of micro economics dealing with consumer behaviour and make them understand the supply side of the market through the production and cost behaviour of firms.
- The course aims at providing the student with knowledge of basic concepts of the macro economics. The modern tools of macro-economic analysis are discussed and the policy framework is elaborated, including the open economy.
- To acquaint students with the economics of regulation of domestic and foreign exchange markets.

BUSINESS STATISTICS I

- To help the students understand the concepts such as Correlation, Regression & Time Series.

E-COMMERCE & ITS APPLICATION

- To enable the students to become competent to understand the mechanism for excelling in ecommerce based employments and self-employment opportunities.
- To understand basics concept of E-commerce
- 2. To understand E-Commerce model
- To emphasise Electronic payment system 4. To understand E-Commerce Security and Legal issue

MANAGEMENT CONCEPTS

- To provide conceptual understanding of Management concepts, principles and functions and to facilitate the students how human behaviour in the organization could be managed successfully

CORPORATE ACCOUNTING II

- To help the students to acquire the conceptual knowledge of the corporate accounting and to understand the various techniques of preparing the financial statements.

COMPANY LAW

- The objective of the course is to impart basic knowledge of the provisions of the Companies Act 2013. Case studies involving issues in company laws are required to be discussed.

BUSINESS COMMUNICATION

- To equip students effectively to acquire skills in reading, writing, comprehension and communication, as also to use electronic media for business communication.

BUSINESS STATISTICS II

- To introduce various optimization techniques of operations research
- To facilitate the use of Quantitative Technique in various functional areas

BUSENESS ECONOMICS II

- To help the students to understand the price determination of goods and services under different market structures.
- To enable the students to understand the concepts of investment, multiplier, accelerator and General Equilibrium.
- To acquire knowledge for application of economic principles and tools in business practices.

INDUSTRIAL ORGANISATION

- It inculcate overall industrial development among the youngsters & how they must go about them with various models suggested by industrial management for further research it develop

TRAINING AND DEVELOPMENT

- To appreciate the significances of training and development
- To introduce the basic concepts in training and development
- To understand the methods of training and development
- To expose the HRD practices in organizations.

COST ACCOUNTING I

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

PRACTICAL AUDITING

- To understand audit theory & its application to the audit of financial statements
- To emphasis the practical application of Audit procedures on realistic financial audit
- To understand the use of internal auditing by top management & governing boards for controlling organisation

BUSINESS MANAGEMENT

- Business Management is an ideal choice for anyone wanting to fast-track their career or learn more about the realities of starting or managing a business
- It is ideal for undergraduates wanting an introduction into business, as well as those wanting to change career paths or improve resumes through by increasing crucial skills
- To acquaint the students with the Principles, functions and practices of management

ENTREPRENEURIAL DEVELOPMENT

- The purpose of the paper is to provide orientation towards entrepreneurship as a career option and encourage creative thinking for effectiveness at work and in life.
- To enable the students to have a thorough knowledge about the Scope of Entrepreneurship in India. Module I Definition and Scope of Entrepreneurship

INCOME TAX LAW & PRACTICES - I

- To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961.
- To make the students understand the canons of taxation.
- To train them to calculate income tax for individuals and corporate
- To make the students to appreciate the tax applications in managerial and financial decision making.

MERCHANT BANKING

- To examine Financial Services management as an important and contemporary area of financial management
- To understand the various financial services and their future and
- To determine the most suitable financial service, given the situations and contingencies

COST ACCOUNTING II

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

MANAGEMENT ACCOUNTING

- To provide the students knowledge about use of costing data for planning, control and decision making.

INCOME TAX LAW & PRACTICES II

- To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961.

FINANCIAL MANAGEMENT

• To know the various sources of finance.
• To understand the various uses for finance.
• To familiarize oneself with the techniques used in financial management.

HUMAN RESOURCE MANAGEMENT

• To understand the evolution of HRD, the functions of HRD, Linkage of HRD with organizational goals and strategies
• To recognize the roles and competencies of HRD professionals

• To understand the frame work of Human Resource Development • To identify the content, outcomes and the process of HRD applications
• To evaluate and understand diversity issues and their impact on organizations and HRD

COMPUTER APPLICATION IN BUSINESS

- Gain familiarity with the concepts and terminology used in the development, implementation and operation of business application systems.
- Explore various methods that Information Technology can be used to support existing businesses and strategies.
- Investigate emerging technology in shaping new processes, strategies and business models.
- Achieve hands-on experience with productivity/application software to enhance business activities.
- Accomplish projects utilizing business theories, Internet resources and computer technology.
- Work with simple design and development tasks for the main types of business information systems

B.COM CA
FINANCIAL ACCOUNTING I

- State the uses and users of accounting information;
- Explain and apply accounting concepts, principles and conventions;
- Record basic accounting transactions and prepare annual financial statements; and
- Analyses interpret and communicate the information contained in basic financial statements and explain the limitations of such statements.
- To acquire accounting knowledge of bills of exchange and other business accounting method

BUSINESS APPLICATION AND ACCOUNTING SOFTWARE

- To gain familiarity with the concepts and terminology used in the development, implementation & operation of business computer applications
- To achieve hands on experience with the application of software's to enhance business activities
- To demonstrate and to access navigation and customisation of computerised accounting software
- To examine basic accounting process using computerised accounting software
- To prepare financial statement by completing the accounting cycle using computerised accounting software

CONSUMER PROTECTION AND CUSTOMER RIGHTS

- This course provides an understanding for the procedure of redressal of consumer complaints, and the role of different agencies in establishing product and service standards.

- The student should be able to comprehend the interface between business firms and consumers and the consumer related regulatory and business environment

FINANCIAL ACCOUNTING II

- The objective of this paper is to help students to acquire conceptual knowledge of the financial accounting and to impart skills for recording various kinds of business transactions
- To understand, analyse and interpret the basic framework of financial reporting.
- To acquire conceptual knowledge of basics of accounting and preparation of final accounts of Sole Trader

LOGISTICS MANAGEMENT

- Students will be able to identify Logistics courses explore such topics as product distribution, transportation management, supply chain, inventory control, and customer service.
- Professionals pursuing logistics courses often work in freight and goods, warehouse distribution, transportation management, store management, product creation and other goods and services related careers.
- Additionally, due to the increased flow of goods and products globally, many logistics courses are now incorporating business methodologies and international marketing aspects into their courses.
- Logistics relates to the distribution of goods and services from supplier to customer, over a broad range of industries.
- Logistics courses are often taken by those wanting to work in product placement and goods distribution.
- Certification, diploma and degree program options are available through study options that include online, distance learning, and classroom education.

CORPORATE ACCOUNTING I

- To make the student familiar with corporate accounting procedures.
- To impart to the students the expertise in preparation of corporate accounts.

BUSINESS LAWS

- To give an exposure to important commercial laws, the knowledge, that is essential for an understanding of the legal implications of the general activities of a modern business organisation.
- To understand the legal frame work related to contract
- To familiarise about the legal aspects regarding negotiable instruments
- To understand the legal regulations about the company

BANKING THEORY LAW & PRACTICE

- To impart knowledge about the basic principles of the banking.
- To enable the students understand the concepts of Money Market, Capital Market, Stock
- Market and the recent banking.
- To make the students understand the Human capital effectively utilized for the growth of
- Indian Economic Development.

MANAGEMENT INFORMATION SYSTEM

- To improve the skills of solving very common problems which we come across in various fields like transaction processing systems and industries with system implementation.
- To develop computational skill and logical thinking in formulating industry oriented problems as a mathematical problem and finding solutions.
- To incorporate a strong knowledge on databases to students.

MOBILE COMPUTING

- Able to describe the features of mobile network
- Able to design a new mobile networks based on the user's requirements
- Able to understand the various protocols used in the mobile networks
- To enable the student to have a better understanding of WIRELESS NETWORKING and prepare the student for higher level of programming.
- This course aims to provide the students with a detailed knowledge on Mobile Application and Development and covers OS platforms to build mobile applications for smart gadgets.
- Enable the students to get sufficient knowledge on various system resources.
- To equip students to basics of data communication and prepare them for better computer networking.

ELEMENTS OF INSURANCE

- To impart knowledge about the basic principles of insurance

MANAGEMENT CONCEPTS

- To provide conceptual understanding of Management concepts, principles and functions and to facilitate the students how human behaviour in the organization could be managed successfully

CORPORATE ACCOUNTING II

- To help the students to acquire the conceptual knowledge of the corporate accounting and to understand the various techniques of preparing the financial statements.

PRINCIPLES OF MARKETING

- To understand the conceptual foundations of Marketing Management as a functional area of business.
- To understand the application of marketing concepts in making strategic decisions.

RELATIONAL DATABASE MANAGEMENT SYSTEM

- Awareness of database models and knowledge of database technologies
- In a position to understand role of RDBMS in the real life

- Able to apply the concept s for providing the data base solutions
- Able to design an efficient database system
- Able to understand the database activities such as recovery, administration, backup etc.,

E-COMMERCE & ITS APPLICATION

- To enable the students to become competent to understand the mechanism for excelling
- in ecommerce based employments and self-employment opportunities.
- To understand basics concept of E-commerce
- To understand E-Commerce model
- To emphasise Electronic payment system 4. To understand E-Commerce Security and Legal issue

INDUSTRIAL ORGANISATION

- It inculcate overall industrial development among the youngsters & how they must go about them with various models suggested by industrial management for further research it develop

TRAINING AND DEVELOPMENT

- To appreciate the significances of training and development
- To introduce the basic concepts in training and development
- To understand the methods of training and development
- To expose the HRD practices in organizations.

COST ACCOUNTING I

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

MANAGEMENT ACCOUNTING

- To provide the students knowledge about use of costing data for planning, controls and decision making.

BUSINESS MANAGEMENT

- Business Management is an ideal choice for anyone wanting to fast-track their career or learn more about the realities of starting or managing a business
- It is ideal for undergraduates wanting an introduction into business, as well as those wanting to change career paths or improve resumes through by increasing crucial skills
- To acquaint the students with the Principles, functions and practices of management

INTERNET & ITS APPLICATION

- Applying the concepts to effectively systemize the network and utilize the technology
- To impart good knowledge of wireless communication to students.
- To prepare the student for better application of intent technology.
- To make the student to become more proficient with system programming.

INCOME TAX LAW & PRACTICES I

- To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961.
- To make the students understand the canons of taxation.
- To train them to calculate income tax for individuals and corporate
- To make the students to appreciate the tax applications in managerial and financial decision making.
- Lectures, numerical problems solving, training on filing tax returns for individuals and corporate

COST ACCOUNTING II

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

WEB TECHNOLOGY

- Describe the importance of the web technology and its concepts
- Provides the web solution for the practical problems
- Understanding the functioning of WWW
- Create web pages using XML
- To discuss techniques that can be effectively applied in practice about HTML
- To work with OLEDB connection.

INCOME TAX LAW & PRACTICES II

- To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961.

ENTERPRISE RESOURCE PLANNING

- Equipping to make decisions on ERP solution and implementation
- To equip students to basics of computer drawing and prepare them for computer modelling of ERP objects.
- To enable the student to understand various methodology available for HR with ERP.

INDUSTRIAL RELATIONS

- Be acquainted with the concepts, principles and issues connected with trade unions.
- Collective bargaining, workers participation, grievance redressal, and employee discipline and dispute resolution.
- Understand the various processes and procedures of handling Employee Relations.

DEPARTMENT OF CHEMISTRY PG

PAPER –I
SUB: ORGANIC CHEMISTRY

- To make the students learn and understand the concept of stereochemistry, conformational analysis and their application in the determination of reaction mechanism.
- To understand the mechanism of nucleophilic and electrophilic substitution reactions.

PAPER -2
SUB: INORGANIC CHEMISTRY I

- To learn about the inorganic polymers.
- To study the concept of coordination chemistry, stability of the complexes and stereochemistry of complexes.
- To know about the structure and bonding of inorganic compounds.

PAPER-3
SUB: PHYSICAL CHEMISTRY I

- To study the partial molar property, fugacity and its significance.
- Theories and basic concepts of chemical kinetics - mechanism of acid, base and enzyme catalysis reaction.
- To acquire knowledge on phase equilibria of three component system. To study the basics of colloids.

ELECTIVE
PAPER-I
SUB: ADVANCED POLYMER CHEMISTRY

- To gain the knowledge in the preparation, properties, characterization and applications of polymers.

OPEN ELECTIVE
PAPER-I
SUB: B.FOOD CHEMISTRY

- To understand the different sources of food.
- To learn the concept of food poisoning.
- To understand the techniques of food preservation.
- To study the importance of vitamins and uses.
- To apperciate the different minerals needed for dayto day life.

SEMESTER II
PAPER - 4
SUB: ORGANIC CHEMISTRY II

- To understand the nature of carbon-hetero atom multiple bond additions and the mechanism of a chemical reactions.
- To understand the techniques involved in the rearrangements and their synthetic utility.
- To know the methods of synthetic strategies and applications.
- To apply the knowledge of chemical reactions in organic synthesis.

PAPER – 5
SUB: INORGANIC CHEMISTRY II

- To make the students knowledgeable in solid state chemistry.
- To equip the students for their future career in nuclear industry.
- To learn the chemistry of lanthanides, to learn about nanotechnology and use of inorganic compounds in biological chemistry.

PAPER-6

SUB: PHYSICAL CHEMISTRY II

- To understand the behaviour of kinetic reactions and fast reaction.
- To understand the behaviour of electrolytes in solution.
- To know the structure of the electrode surface.
- To differentiate electrode kinetics from other types of kinetic studies.
- To know the applications of electrode process. To study the concept and applications of group theory.

CORE ELECTIVE
PAPER-2
SUB: GREEN CHEMISTRY

- To know the principle and importance of green chemistry.
- To understand the student green chemistry strategies for designing the chemical synthesis.
- To know the solvent free synthesis.
- To make the students knowledgeable ultrasound and microwave assisted green synthesis.

OPEN ELECTIVE
PAPER-2
SUB: A.MEDICINAL CHEMISTRY

- Knowledge of the connection between the structural features of the drugs and their physico-chemical characteristics, mechanism of action and use.
- Application gained knowledge about the therapeutic classes of drugs.
- Counselling and giving information to patients about the drug action.

SEMESTER III
PAPER - 7
SUB: ORGANIC CHEMISTRY III

- To understand the concepts of spectral techniques and to apply these techniques for the quantitative and structural analysis of organic compounds.
- To learn the chemistry of terpenes, alkaloids and free radicals and their importance.

PAPER- 8
SUB: INORGANIC CHEMISTRY III

- To study about the Coordination complexes, Substitution in Coordination complexes and Inorganic Photochemistry.

PAPER-9
SUB: PHYSICAL CHEMISTRY III
SUB CODE: MCH33

- To study the electrochemical kinetics, over potential, corrosions and fuel cells.
- To know the solid state and its properties.
- To Study the principles and applications of spectroscopy.
- To study statistical thermodynamics.

ELECTIVE PAPER-2
SUB: SCIENTIFIC RESEARCH METHODOLOGY

- To study about the importance of research, literature survey, error analysis, statistical treatment.
- To study about the conventions of writing thesis.

PAPER - 10
SUB: ORGANIC CHEMISTRY IV

- To understand the concepts of Aromaticity, Photochemical Reactions, Antibiotics and proteins.
- Applications and Techniques of Dyeing.

PAPER-11
SUB: INORGANIC CHEMISTRY – IV

To study about the Inorganic Spectroscopy and Nuclear Chemistry.

PAPER-12
SUB: PHYSICAL CHEMISTRY-IV

- To study the principles of photochemical reactions.
- To study the Experimental methods and kinetics studies of photochemical reactions.
- To Study of electrode - electrolytic interface.
- To study the fundamental principles of quantum chemistry and its application to chemical bonding, Schrödinger wave equation and its applications.
- To study statistical thermodynamics, quantum statistics and irreversible thermodynamics.

ELECTIVE PAPER- 4
SUB: ENVIRONMENTAL CHEMISTRY

- To understand the concept of different types of pollution.
- To learn the various techniques involved in the analysis of pollutants.
- To know the methods for the control of pollution

DEPARTMENT OF CHEMISTRY UG

SEMESTER I
PAPER – 1
SUB: GENERAL CHEMISTRY – I

- To study Basic concepts regarding Atomic Structure, Periodic Properties, Bonding Concepts.
- To study Ionic Bond, VSEPR and MO Theories, Nomenclature of Organic Compounds, Hybridisation.
- To study Reaction Intermediates, States of Matter, Principle of Volumetric Analysis, Related Problems and Applications.

PAPER – 1
ALLIED
SUB: CHEMISTRY – I

- Basic knowledge on Metallurgy, Cycloalkanes, Polarising Effects, Stereochemistry, Chemical Kinetics, Catalysis, Photochemistry, VSEPR Theory, Fuels, Osmosis, Nuclear Chemistry, Petroleum Chemistry, Chemistry of Naphthalene, Conductors and Applications wherever necessary are to be taught.

PAPER – 1
SUB: PROFESSIONAL ENGLISH – I

- To enhance the lexical, grammatical and socio-linguistic and communicative competence of first year physical sciences students
- To focus on developing students' knowledge of domain specific registers and the required language skills.
- To develop strategic competence that will help in efficient communication
- To sharpen students' critical thinking skills and make students culturally aware of the target situation.

SEMESTER II
PAPER – 2
SUB: GENERAL CHEMISTRY – II

- Basic knowledge on s- and p- Block Elements, Group Study.
- Hydrocarbons, Cycloalkanes, Dienes,
- Quantum Chemistry, Thermochemistry, First Law of Thermodynamics, Derivation of Equations, Related Problems, Reaction Mechanism and Applications.

PAPER – 2
ALLIED
SUB: CHEMISTRY – II

- Basic knowledge on Coordination Chemistry, Industrial Chemistry, Carbohydrates, Aminoacids, Proteins, Electrochemistry, Paints and Pigments, dyes, Vitamins, Medicinal Chemistry, Corrosion and Applications wherever necessary are to be taught.

PAPER – 1
SUB: PROFESSIONAL ENGLISH – II

- Develop their competence in the use of English with particular reference to the workplace situation.
- Enhance the creativity of the students, which will enable them to think of innovative ways to solve issues in the workplace.
- Develop their competence and competitiveness and thereby improve their employability skills.
- Help students with a research bent of mind develop their skills in writing reports and research proposals.

SEMESTER – III
PAPER – 3
SUB: GENERAL CHEMISTRY – III

- To study Basic concepts regarding the Principles of Inorganic Analysis and Applications of Qualitative Analysis.
- To study Types of Solvents, p- Block Elements, Group Study, Aromaticity, Electrophilic and Nucleophilic Substitution Reactions, Elimination Reactions, Reaction Mechanism.
- To study Second Law of Thermodynamics, Derivation of Equations, Related Problems and Applications

SKILL BASED SUBJECT
PAPER – 1
SUB: WATER TREATMENT AND ANALYSIS

- To impart knowledge about the various methods of Water Analysis and Treatment of Water.

NON MAJOR ELECTIVE
PAPER – 1
SUB: MEDICINAL CHEMISTRY

- To learn the basic idea of Drugs and Names of Common Drugs, Blood, Blood Pressure, Diabetes, AIDS, Vitamins, Indian Medicinal Plants and First Aid.

PAPER – 4
SUB: GENERAL CHEMISTRY – IV

- To study Noble gases, Carboxylic Acids, Amines, Alcohols, Phenols, Naphthols, Important Name Reactions, Mechanism.
- To study Thermodynamics, Derivation of Equations, Partial Molar Properties, Chemical Potential, Related Problems and Applications.

SKILL BASED SUBJECT
PAPER – 2
SUB: FOOD CHEMISTRY

- To impart knowledge about Different Foods, Their Nutritive Values and Food Preservation.

NON MAJOR ELECTIVE
PAPER – 2
SUB: CHEMISTRY IN EVERYDAY LIFE

- To know the basics of chemistry in our life.
- To know about the Food Colours, Plastics, Drugs, etc.,

PAPER – 5
SUB: INORGANIC CHEMISTRY – I

- To study about the Halogens and Related compounds.
- To give students a firm grounding in Co-ordination chemistry and Solid state Chemistry

PAPER – 6
SUB: ORGANIC CHEMISTRY – I

- To effectively impart knowledge about Carbohydrates, Stereochemistry, Conformational Analysis, Nitroalkanes and Heterocyclic chemistry.
- To make the students more inquisitive in learning the Mechanistic details in Organic¬ Chemistry through the teaching of the named reactions.

PAPER- 7
SUB: PHYSICAL CHEMISTRY – I

- To impart knowledge about the Solutions, Phase Rule and its Applications,
- To study Colligative properties, Chemical Equilibrium, Phase Rule and its Applications, Electrochemistry and its Applications.

ELECTIVE
PAPER – 1
SUB: ANALYTICAL CHEMISTRY – 1

- To impart knowledge about Data Analysis, Purification of organic compounds, Different Spectroscopic Techniques and their Application.

ELECTIVE
PAPER – 2
SUB: PHARMACEUTICAL CHEMISTRY

- To effectively impart knowledge about Various Diseases and Their Treatment, Importance of Indian Medicinal Plants and Different Types of Drugs.
- Preparation, Synthesis and Structural Determination are not required for the Compounds mentioned.

SKILL BASED SUBJECT
PAPER – 3
SUB: APPLIED CHEMISTRY

- To impart Knowledge about Petrochemicals, Paper Technology, Sugar Industry, Explosives, Photography and Diary Chemistry.

SEMESTER – VI
PAPER – 8
SUB: INORGANIC CHEMISTRY – II

- To impart knowledge about Nuclear chemistry, Radioactivity, Metallurgy, Chemistry of f- Block Elements, Organometallic Compounds and Bio-inorganic Chemistry.

PAPER – 9
SUB: ORGANIC CHEMISTRY – II

- To kindle interest in students in learning Bio-organic chemistry through the introduction of topics such as Proteins, Nucleic acids, Terpenes, Alkaloids etc.
- To generate Keen Interest and Thinking in Understanding the Mechanisms of¬ Molecular Rearrangements and Synthetic Applications of Acetoacetic Ester, Benzene Diazonium Chloride, Grignard Reagents and Diazomethane.

PAPER- 10
SUB: PHYSICAL CHEMISTRY – II

- To impart Knowledge about Electrochemistry, Surface Chemistry, Photochemistry, Chemical Kinetics and Theories of reaction rates.

ELECTIVE PAPER – 3
SUB: ANALYTICAL CHEMISTRY – II

- To impart knowledge about Different Chromatographic and Spectroscopic Techniques.

SKILL BASED SUBJECT
PAPER – 4
SUB: AGRICULTURE AND LEATHER CHEMISTRY

- To learn about Soil fertility and Productivity, Soil Chemistry, Insecticides, Leather Industry and Treatment of Tannery Effluents.

B.Sc. COMPUTER SCIENCE
CBCS PATTERN

(With effect from 2020-2021)

COURSE OUTCOME – **Programming in C**
After the successful completion of this course, students will be able to

- Understand the basics of C programming
- Write, compile and debug programs in C language.
- Use different data types in a computer program.
- Design programs involving decision structures, loops and functions with call by value and call by reference
- Illustrates the use of pointers and Structures.

- To perform basic operations like create/update on basic data files.

COURSE outcome - Environmental studies

Creating awareness among the students about the importance of environment, the effect of technology on the environment and ecological balance is the important aim of the course.

After the successful completion of this course, students will be able

- Awareness about the importance of environmental studies and methods of conservation of natural resources.
- Explains the structure and function of an ecosystem.
- Identify the values and conservation of bio-diversity.
- Demonstrates the causes, effects and control measures of various types of pollutions.
- Select the appropriate methods for waste management.
- Acquire the knowledge about various disaster management methods

COURSE OUTCOME: C++ & Data structure

This course is designed to provide more knowledge about C++ & Data structures.

- This emphasizes more about C++, which provide students a clear understanding of object-oriented concepts & its programming through C++. Also, it explains various data structures & operations performed using algorithm and examples.

COURSE OUTCOME: C++

After the successful completion of this course, students will be able to

- Acquire the basic knowledge on Object Oriented concepts.
- Build applications using Object Oriented Programming Concepts.
- Demonstrate the differences between traditional imperative designs and object oriented design.
- Elaborate class structures as fundamental, modular building blocks.
- Understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code.
- Write small/medium scale C++ programs with simple graphical user interface.
- Understand the file handling and error handling mechanisms in C++.
- Get knowledge to use strings and Streams in C++.

COURSE OUTCOME: Data structure

After the successful completion of this course, students will be able to

- Demonstrate various data structures & its operations using algorithms.
- Demonstrate understanding of the abstract properties of various data structures such as stacks, queues, lists, trees and graphs and Use various data structures effectively in application programs.
- Demonstrate understanding of various sorting algorithms, including bubble sort, insertion sort, selection sort, heap sort and quick sort.
- Illustrates the various applications of data structures like infix to postfix conversion.
- Demonstrates more about linked lists, doubly linked lists & its operations.

Understand and apply fundamental algorithmic problems including Tree traversals, Graph traversals, and shortest paths.

- Gain knowledge about Hashing and Collisions and B- Trees.

COURSE OUTCOME: C++ & Data structure lab

This course is designed to provide a practical knowledge of how to write, compile and debug programs in C++ language. It is also used to solve problems and implement data structure algorithms in C++.

After the successful completion of this lab Course, students will be able to

- Build applications using Object Oriented Programming Concepts
- Acquire knowledge about the basic concept of writing a C++ program.
- Understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code
- Get practical knowledge about the application of data structures
- Implement linked list data structure to solve various problems.
- Apply graph and tree traverse technique to various applications.
- Understand and apply various data structure such as stacks, queues, trees and graphs to solve various computing problems using C++-programming language.
- Various sorting techniques can be implemented using C++ programs.

COURSE OUTCOME: Value Education

This course is designed to provide moral values to the students. It also inculcate

After the successful completion of this lab Course, students will be able to

- Explains the concept of human values
- Explains about the Components, structure & responsibility of family
- Reveals about status of women in society
- Reveals about ethics on family & society
- Demonstrates about psychology of children and youth
- Explains personality development & leadership qualities
- Demonstrates about social values & its awareness
- Explains about environmental issues

COURSE OUTCOME: Programming In Java

- Knowing about a General-purpose and Purely object-oriented programming language including data types, control statements, and classes
- Secured, well-suited for internet programming using applets and GUI-based

- Students are able to know about a General-purpose and Purely object-oriented programming language including data types, control statements, and classes
- Students are able to Secured, well-suited for internet programming using applets and GUI-based

COURSE OUTCOME: Digital Logic Design and Computer Organization

This course aims to provide the students with a detailed knowledge on digital logic, internals of the System logic circuits and to know the working principles of the computers.

COURSE OUTCOME: Introduction to Information Technology

- Students understand Major components of Computer System and its working principles.
- Students learn and understand the Role of an Operating System and basic terminologies of networks.
- Students understand how the Information Technology aids for the Current Scenario.
- Students understand the Computer Software.
- Students understand internet applications

COURSE OUTCOME: Relational Database Management Systems

- Describe the database architecture and its applications Sketch the ER diagram for real world applications Uses various ER diagram for a similar concepts from various sources.
- Discuss about the relational algebra and calculus Construct various queries in SQL and PL/SQL Compiles various queries in SQL, Relational Calculus and Algebra.
- Describe the various normalization forms Apply the normalization concepts for a table of data Practices a table and implement the normalization concepts.
- Explain the storage and accessing of data.
- Illustrate the query processing in database management. Define the concurrency control and deadlock concept

COURSE OUTCOME: Relational Database Management Systems Labs

- Design and Implement a database schema for a given problem domain.
- Populate and Query a database using SQL DDL/DML Commands.
- Build well formed in String Date/Aggregate Functions.
- Design and Implement a database query using Joins, Sub-Queries and Set Operations.
- Program in SQL including Objects (Functions, Procedures, Triggers)

COURSE OUTCOME: Wireless Data Communication

- To understand the concepts of basic OSI layers.
- To understand the concepts of signals and transmission media.
- To understand the basic concepts of error detection and DLC
- To understand the Characterize of wireless transmission technologies
- To understand the concepts of Security.

COURSE OUTCOME: Internet Technology

- Students understand the Fundamentals of Internet, Connectivity and its

Resource Requirements.

- Students understand the Internet Technology and its applications
- Students understand the basis of WWW and Web Browsers.
- Students learn how to Mailing system and applications of Internet.
- Students Understand relay chat that is how to read e- contents.

COURSE OUTCOME: Mobile Applications Development

This course aims to provide the students with a detailed knowledge on Mobile Application Development and Deployment about Android programming from basics to building mobile applications for digital world.

- Evaluate the architecture and principles of operation of computer systems and Determine solutions using problem solving principles, logic and systematic methodologies.
- Synthesize principles and theories of computer science and software engineering for application to different computing paradigms.
- Design and develop software systems for various application domains.
- Design and develop secure enterprise-grade information systems.
- Manage the development of software systems through a variety of development processes and methodologies.
- Design effective user interfaces using human computer interaction principles.
- Synthesize new knowledge in the field of computer science by using appropriate research methodologies.

COURSE OUTCOME: Operating System

Enable the student to get sufficient knowledge on concepts, functions and various system resources of operating systems.

- Demonstrates different types of modern operating systems and their structure of implementation and applications.
- Understand the difference between process & thread, issues of scheduling of user level processes / threads and their issues & use of locks, CPU scheduling and multithreaded systems.
- Gain knowledge about the concepts of deadlock in operating systems and how they can be managed / avoided and implement them in multiprogramming system.
- Demonstrate the design and management concepts along with issues and challenges of main memory, virtual memory and file system.
- Understand the types of I/O management, disk scheduling, protection and security problems faced by operating systems and how to minimize these problems.
- Illustrates the case study of UNIX operating system.

COURSE OUTCOME: Design and Analysis Of Algorithms

- The objective of the course is to teach techniques for effective problem solving in computing.
- The use of different paradigms of problem solving will be used to illustrate clever and efficient ways to solve a given problem.
- In each case emphasis will be placed on rigorously proving correctness of the algorithm.

COURSE OUTCOME: Data Mining

To enable the students to understand the importance of Data Mining and its techniques with recent trends and tools.

- Understand the data extraction and transformation techniques.
- List the association rule mining techniques and understand association mining to correlation analysis, constraint based association mining.
- Understand operational database, warehousing and multidimensional need of data base to meet industrial needs.
- Understand the components of warehousing, classification methods and clustering analysis.
- Identify and understand the Business analysis, query tools and application, OLAP etc.

COURSE OUTCOME: Information Security

To enable the student to understand various methodologies available for securing information.

- The basic concepts of Information Security
- The legal, ethical and professional issues in Information
- To know about risk management
- To understand the technological aspects of Information Security
- To understand the concepts of Cryptography and Hacking methods

COURSE OUTCOME: Software Testing

To study the concepts of software engineering with the aim of acquiring skills to develop Software applications, following all standardized procedures and techniques.

- To understand the concept of software testing, and software quality
- To learn to inspect and detect errors by going through each and every code segment
- To gain knowledge of various functional and structural testing techniques
- To understand basic concept of Software Management tools and object oriented testing
- To understand basic concept of Software quality and software quality assurance

COURSE OUTCOME : Software Engineering

This course is intended to provide the students with an overall view over Software Engineering discipline and with insight into the processes of software development.

- Introduces the concepts and methods required for the construction of large software intensive systems.

- Gets the idea of choosing the Requirements in Software Engineering.
- Gives an understanding the concept of Data Engineering.
- To impart knowledge on Testing and Debugging.
- To enable the students to learn the basic of Project Management & Scheduling.

COURSE OUTCOME : Open Source Software

To study the concepts of open source techniques that can be effectively applied in practice about HTML5, JavaScript, PHP, and PERL.

- To understand the concept of HTML, HTML5 and CSS.
- To learn to inspect and detect errors by going through each and every code segment.
- To understand basic concept of Java Script and MySQL.
- To understand basic concept of PHP
- To understand basic concept of PER

COURSE OUTCOME : Python Programming

- Students are able to explore the fundamental concepts of Python
- Students are able to understand Basics of Python programming language
- Students are able to solve simple problems using Python
- Students are able to acquire fundamental knowledge and skills on Python Programming
- Students are able to understand the nuances of this language.
- Students are able to know the usage of modules and packages in Python
- Students are able to familiarize with file concepts in Python
- Students are able to familiarize with web concepts using Python.

COURSE OUTCOME : Big Data Analytics

- To explore the fundamental concepts of big data analytics.
- To learn to analyze the big data using intelligent techniques and mining data stream.
- To understand the applications using Map Reduce Concepts.
- To explore the fundamental concepts of big data analytics.
- To learn to use various techniques for mining data stream.
- To learn the Big data Business Perspective
- To understand the applications using Map Reduce Concepts.

COURSE OUTCOME : Cryptography

- Understand various Security practices and System security standards
- Understand different cryptographic operations
- Understand the various Authentication schemes to simulate different applications.

- Understand OSI security architecture and classical encryption techniques**.**
- Understand the different cryptographic operations of symmetric cryptographic algorithm**s.**

- Understand the different cryptographic operations of Public key cryptographic algorithms.

- To make use of application protocols to design and manage a secure system.
- To learn the configuration and manage E–mail and WLAN Security.

COURSE OUTCOME : Digital image processing

This course enables the student knowledge about various image processing concepts like enhancement, restoration, segmentation, compression and recognition.

- To know the basics of Digital image and techniques.
- To understand various Image enhancement ideas.
- To understand Image restoration techniques.
- To understand degrees of image resolution and compression methods.
- To understand concepts of image representation and recognition.

COURSE OUTCOME : Artificial intelligence

To induce the innovative ideas of students, related to Robotics, Artificial Intelligence and Machine Learning. This course enables the student's level to compete in the world of information and technology era.

- To know the basics of Artificial Intelligence.
- To Understand the Methods and algorithms in AI.
- To learn to represent knowledge in solving AI problems.
- To Understand Statistical logics and know about Software agents.
- To learn how Machine learning is related to AI.

COURSE OUTCOME : System software

To have an understanding the basic design of assemblers, loaders, linkers, macro processor.

- To understand the basic concepts of system software
- Ability to trace the path of a source code to object code and to executable file
- To design and implementation of loaders and linkers
- To understand the concepts of macro processor
- Ability to analyze the functions of compilers

COURSE OUTCOME: Cloud computing

- To enable the students to learn the basic functions, principles and concepts of cloud computing Systems.
- To understand the concepts in Cloud Computing.
- To understand the concepts of Cloud Computing Services.
- To enable the Students to learn Programming Models in Cloud Computing and its Environments.
- The student should be made to learn the basics of Software Development in Cloud.
- At the end of the course, the student should be able to learn Security Aspects of Cloud Computing.

COURSE OUTCOME: Internet of things

This course presents the Introduction to IoT, M2M, IoT Architecture, IoT Model and Views, IOT protocols and Real world design constraints enable the students to learn the concepts of IoT.

- To understand the fundamentals of Internet of Things.
- To understand the M2M and IoT Architecture
- To understand the IoT Model And Views
- To learn about the basics of IOT protocols.
- Analyze applications of IoT in real time.

MASTER OF COMPUTER SCIENCE
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(With effect from 2020 - 2021)

COURSE OUTCOMES: Relational Database Management System

- Students are able to have a broad understanding of database concepts and database management system software
- Students are able to have a high-level understanding of major DBMS components and their function
- Students are able to model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model.
- Students are able to write SQL commands to create tables and indexes, insert/update/delete data, and query data in a relational DBMS.
- Students are able toprogram a data-intensive application using DBMS APIs.

COURSE OUTCOMES : Enterprise Java Programming

- Students are able to develop Applet Programming using various techniques
- Students are able to develop applications using Abstract Window Toolkit and Events
- Students are able to update and retrieve the data from the databases using JDBCODBC
- Students are able to develop server side programs in the form of Servlets
- Students are able to build up Java Applications using collections and JSP Tags.

COURSE OUTCOMES: Programming Using C#.Net

- Students are able to know the differences between desktop application and web application Students are able to construct classes, methods, and access modifier and instantiate objects.
- Students are able to create and manipulate GUI components in C# for windows application.

- Students are able to code solutions and compile C# projects within the .NET framework.
- Students are able to build the desktop application with Database

COURSE OUTCOMES: Computer Organization

- Students are able to identify the types of instructions and the organization of registers and memory
- Students are able to describe the translation model of assembly language to machine language.
- Students are able to understand the micro-program by mapping the instructions.
- Students are able to recognize the types of computer organizations.
- Students are able to accept the better way of processing by Parallel and Vector processing.

COURSE OUTCOMES: Parallel Computing

- Students are able to compute speedup, efficiency, and scaled speedup of parallel computations, given appropriate data
- Students are able to apply Amdahl's Law to predict the maximum speedup achievable from a parallel version of a sequential program, given its execution profile
- Students are able to analyze the efficiency of a parallel algorithm
- Students are able to explain the relative advantages and disadvantages of mesh, hypercube, and butterfly networks with respect to diameter, bisection width, and number of edges/node
- Students are able to explain the advantages and disadvantages of constructing parallel computers using

COURSE OUTCOMES: Embedded System

- Students are able to understand basic concepts in the embedded computing systems area;
- Students are able to determine the optimal composition and characteristics of an embedded system;
- Students are able to understand what is a microcontroller, microcomputer, embedded system
- Students are able to design and program an embedded system at the basic level;

- Students are able to develop hardware-software complex with the use of the National Instruments products.

COURSE OUTCOMES: Advanced Enterprise Java Programming

- Students are able to work with JSP, JSF and Servlet using MVC approach.
- Students are able to develop the web applications using the MVC framework provided by Apache Struts
- Students are able to develop Enterprise web application using EJB.
- Students are able to implement the Object-Relation Mapping technique using Hibernate
- Students are able to gets knowledge of Aspect Oriented Programming using Spring and Spring MVC.

COURSE OUTCOMES: Design and Analysis of Algorithms

- Students are able to prove the correctness and analyze the running time of the basic algorithms for those classic problems.
- Students are able to understand the basic knowledge of algorithm design and its implementation.
- Students are able to learn the key techniques of Divide-and-Conquer and Greedy Method.
- Students are able to recognize the concept of Dynamic Programming and its algorithms
- Students are able to familiarize with Backtracking algorithms.
- Students are able to understand Branch and Bound techniques for designing and analyzing algorithms.

COURSE OUTCOMES: Web Application Using C#.Net

- Students are able to know the differences between desktop application and web application.
- Students are able to construct classes, methods, and access modifier and instantiate objects.
- Students are able to create and manipulate GUI components in C# for windows application.
- Students are able to code solutions and compile C# projects within the .NET framework.
- Students are able to build the desktop application with Database.

COURSE OUTCOMES: Human Computer Interaction

- Students are able to plan and Develop procedures and life cycle of Human Computer Interaction
- Students are able to analyze product usage through appropriate assessments and testing techniques.
- Students are able to apply the interface structure standards/rules for different users.
- Students are able to encourage communication between understudies of brain science, structure, and software engineering on UI improvement projects.
- Students are able to understand the intensity of HCI in the cutting edge world and the job it can play in advancing value, openness, and progress.

COURSE OUTCOMES: Social Information Networks

- Students are able to clear understanding of real world applications
- Students are able to comprehend the elements of the social network
- Students are able to demonstrate and envision the social network
- Students are able to understand the role of web in the social network
- Students are able to apply the concept of social network in appropriate application

COURSE OUTCOMES: Cloud Computing

- Students are able to understand the broad perceptive of cloud architecture and model.
- Students are able to understand the concept of parallel and distributed computing
- Students are able to understand the different technologies.
- Students are able to understand the features of virtualization.
- Students are able to learn to design the trusted cloud computing system with different cloud platforms

COURSE OUTCOMES: Distributed Operating System

- Students are able to understand foundations of Distributed Systems.
- Students are able to get the idea of memory management
- Students are able to comprehend in detail the system level and support required for distributed system.
- Students are able to recognize the shell script commands of Unix

COURSE OUTCOMES: **Xml and Web Services**

- Students are able to understand the use of web services in B2C and B2B applications.
- Students are able to understand the design principles and application of SOAP and REST based web services.
- Students are able to design collaborating web services according to a specification.
- Students are able to implement an application that uses multiple web services in a realistic business scenario.

COURSE OUTCOMES: **Programming Using Python**

- Students are able to explore the fundamental concepts of Python
- Students are able to understand Basics of Python programming language
- Students are able to solve simple problems using Python
- Students are able to acquire fundamental knowledge and skills on Python Programming
- Students are able to understand the nuances of this language.
- Students are able to know the usage of modules and packages in Python
- Students are able to familiarize with file concepts in Python
- Students are able to familiarize with web concepts using Python.

COURSE OUTCOMES: **Block chain Technology**

- Students are able to understand the functions of Block chains
- Students are able to have clarity in the Concepts, challenges, solutions with respect to block chain
- Students are able to understand the facts and myths related to crypto currencies.
- Students are able to apply the concept of Block chain for various applications.
- Students are able to correlate Current Indian scenario in governing crypto currencies in India with Global standard.

COURSE OUTCOMES: Internet of Things

- Students are able to design and develop IOT based solution for real world applications
- Students are able to realize the evolution of Internet in Mobile Devices, Cloud & Sensor Networks
- Students are able to understand the building blocks of Internet of Things and its characteristics.
- Students are able to understand the concept of IOT and its application.

COURSE OUTCOMES: **Network Security**

- Students are able to identify some of the driving factors needed for network security

- Students are able to Identify and classify attacks and threats
- Students are able to compare and contrast symmetric and asymmetric encryption systems.
- Students are able to identify the web systems vulnerable to attack.
- Students are able to use appropriate secure mail applications and security protocols

COURSE OUTCOMES: **Programming Using C**

- Students are able to understand a functional hierarchical code organization.
- Students are able to define and manage data structures based on problem subject domain.
- Students are able to work with textual information, characters and strings.
- Students are able to work with arrays, structures, pointers and files.

COURSE OUTCOMES: **Programming Using C++**

- Students are able to understand object oriented programming and advanced C++ concepts.
- Students are able to understand the various functions and arguments in object oriented programming.
- Students are able to understand the classes and objects in C++.
- Students are able to familiarize with inheritance and polymorphisms.
- Students are able to understand the concepts files and exception handling.

COURSE OUTCOMES: **Programming Using Python**

- Students are able to explore the fundamental concepts of Python
- Students are able to understand Basics of Python programming language
- Students are able to solve simple problems using Python
- Students are able to acquire fundamental knowledge and skills on Python Programming
- Students are able to understand the nuances of this language.
- Students are able to know the usage of modules and packages in Python
- Students are able to familiarize with file concepts in Python
- Students are able to familiarize with web concepts using Python.

COURSE OUTCOMES: **Mobile Application Development**

- Students are able to know about the mobile application development environment
- Students are able to develop interface and design
- Students are able to use the techniques in Mobile Applications

COURSE OUTCOMES: **Software Project Management**

- Students are able to understand the activities during the project scheduling of any software application.
- Students are able to learn the risk management activities and the resource allocation for the projects.
- Students are able to apply the software estimation and recent quality standards for evaluation of the software Projects.
- Students are able to acquire knowledge and skills needed for the construction of highly reliable software project.
- Students are able to able to create reliable, replicable cost estimation that links to the requirements of project planning and managing.

COURSE OUTCOMES: **Big Data Analysis**

Students are able to learn about types of digital data and big data

- Students are able to gain knowledge of various Big data analytics and its Technologies
- Students are able to study about various NoSQL databases and management techniques
- Students are able to work with NoSQL databases such as MongoDB and Cassandra
- Students are able to design big data queries using Hive and Pig.

COURSE OUTCOMES: **Artificial Intelligence**

- Students are able to understand the various searching techniques, constraint satisfaction problem and example problems- game playing techniques.
- Students are able to apply these techniques in applications which involve perception, reasoning and learning.
- Students are able to explain the role of agents and how it is related to environment and the way of evaluating it and how agents can act by establishing goals.
- Students are able to acquire the knowledge of real world Knowledge representation.
- Students are able to analyze and design a real world problem for implementation and understand the dynamic behavior of a system.
- Students are able to use different machine learning techniques to design AI machine and enveloping applications for real world problems

COURSE OUTCOMES: **Machine Learning**

- Students are able to design and implement machine learning solutions to classification, regression, and clustering problems;
- Students are able to evaluate and interpret the results of the algorithms.
- Students are able to select and implement machine learning techniques and computing environment that are suitable for the applications under consideration.
- Students are able to solve problems associated with batch learning and online learning, and the big data characteristics such as high dimensionality, dynamically growing data and in particular scalability issues.
- Students are able to understand and apply scaling up machine learning techniques and associated computing techniques and technologies.
- Students are able to recognize and implement various ways of selecting suitable model parameters for different machine learning techniques.

COURSE OUTCOMES: Cyber Security

- Students are able to understand the cyber threats and their Impact
- Students are able to have an awareness towards cybercrimes and legal impact against them
- Students are able to avoid becoming a Victim to cyber threats
- Students are able to assess risks and weakness in security policies
- Students are able to respond to security alerts and identify flaws in systems and networks

COURSE OUTCOMES: **Decision Support System**

- Students are able to recognize the relationship between business information needs and decision making
- Students are able to appraise the general nature and range of decision support systems
- Students are able to appraise issues related to the development of DSS
- Students are able to select appropriate modeling techniques
- Students are able to analyze, design and implement a DSS

COURSE OUTCOMES: **Research Methods and Ethics**

- Students are able to demonstrate knowledge of research processes (reading, evaluating, and developing);
- Students are able to perform literature reviews using print and online databases;

- Students are able to identify, explain, compare, and prepare the key elements of a research proposal/report;
- Students are able to compare and contrast quantitative and qualitative research

Department of Business Administration

Course Outcome 2020-2021

Principles of Management (CBA11)

- Discuss and communicate the management evolution and how it will affect future manage
- Observe and evaluate the influence of historical forces on the current practice of management.
- Identify and evaluate social responsibility and ethical issues involved in business situations and logically articulate own position on such issues.
- Explain how organizations adapt to an uncertain environment and identify techniques managers use to influence and control the internal environment.
- Practice the process of management's four functions:
- planning,
- Organizing,
- leading, and
- Controlling.
- Identify and properly use vocabularies within the field of management to articulate one's own position on a specific management issue and communicate effectively with varied audiences.
- Evaluate leadership styles to anticipate the consequences of each leadership style.
- Gather and analyze both qualitative and quantitative information to isolate issues and formulate best control methods

Business Mathematics and Statistics I &II (CBA12 & CBA22)

- Construct proofs using techniques from logic such as proof by contradiction and/or specific techniques such as the principle of induction.
- Analyze and check correctness of mathematical arguments, and read mathematical text independently.
- Apply an advanced abstract mathematical idea to a concrete real-world problem (e.g., application of differential equations, or linear programming, or RSA or error correction codes).
- Write effectively using language appropriate for mathematical discourse.
- Use calculus to analyze and evaluate properties of real valued functions.
- Interact effectively with fellow students and colleagues.
- Successfully complete four advanced courses in four different areas of mathematics, establishing breadth required for careers in fields such as teaching and industrial applications.

Business Organizations (CABA13A)

- All business entities are not the same. Some provide owners a lot of flexibility in management and control and some do not.
- Some provide owners a significant degree of protection from liability and some do not. And some are heavily regulated, and some are not.
- On top of these differences is the fact that our tax code provides different tax treatments for different business entities.
- All of these factors should be considered when an entrepreneur is selecting the type of business entity she or he wishes to use for her or his business.
- Let's take a look at the primary choices an entrepreneur has by breaking them down into two broad categories.
- First, we'll take a look at unlimited liability entities, or those business organizations that don't provide the owner or owners any protection from personal liability, such as sole proprietorships and general partnerships.
- Then, we'll examine limited liability entities, which are business organizations that usually limit an owner's liability to his or her investment in the business, such as corporations, limited liability companies, and limited partnerships.

Professional English I&II (CPE10B & CPE20B)

- Students will be enabled to understand the basic objective of the course by being acquainted with specific dimensions of communication skills i.e. Reading, Writing, Listening, Thinking and Speaking.
- Students would be able to create substantial base by the formation of strong professional vocabulary for its application at different platforms and through numerous modes as Comprehension, reading, writing and speaking etc.
- Students will apply it at their work place for writing purposes such as Presentation/official drafting/administrative communication and use it for document/project/report/research paper writing.
- Students will be made to evaluate the correct & error-free writing by being well-versed in rules of English grammar & cultivate relevant technical style of communication & presentation at their work place & also for academic uses.
- Students will apply it for practical and oral presentation purposes by being honed up in presentation skills and voice-dynamics.
- They will apply techniques for developing inter-personal communication skills and positive attitude leading to their professional competence.

Business Environment (CBA21)

- To provide knowledge of the environment in which businesses operate, the economic operational and financial framework with particular application to the transaction of insurance business.

- Learning Outcomes:
- At the end of the course, student should be able to:
- Discuss the supply and demand theory and its impact on insurance.
    - Explain the effects of government policy on the economic environment and
    - Insurance industry.
    - Outline how an entity operates in a business environment.
- Describe how financial information is utilized in business.
- Explain the legal framework that regulates the insurance industry

Customer Relationship Management (CABA23A)

- Develop understanding about customer relationship management concepts and frameworks and how these are applied to form relationships with customers and other internal and external stakeholders.
- Develop skills to analyse and synthesise information and issues, related to customer relationship management, from several perspectives.
- Enhance business communication skills required to work effectively within a marketing team.
- Student Learning Outcomes By the end of the course,
- Analyse relationship theory and relationship economics from the point of view of the customer and the organisation.
- critically analyse an organisation's relational strategies with stakeholder groups that affect how well it meets customer needs
- evaluate CRM implementation strategies
- Formulate and assess strategic, operational and tactical CRM decisions.
- Plan and conduct an investigation on an aspect of CRM, and communicate findings in an appropriate format.

Production Management (BBA31)

- To gain an understanding and appreciation of the principles and applications relevant to the planning, design, and operations of manufacturing/service firms.
- To develop skills necessary to effectively analyze and synthesize the many inter-relationships inherent in complex socio-economic productive systems.
- To reinforce analytical skills already learned, and build on these skills to further increase your "portfolio" of useful analytical tools for operations tasks.
- To gain some ability to recognize situations in a production system environment that suggests the use of certain quantitative methods to assist in decision making on operations management and strategy.
- To understand how Enterprise Resource Planning and MRPII systems are used in managing operations
- To increase the knowledge, and broaden the perspective of the world in which you will contribute your talents and leadership in business operations.

- To understand the managerial responsibility for Operations, even when production is outsourced, or performed in regions far from corporate headquarters.

Management Accounting I & II (BBA32 & BBA42)

- Apply managerial accounting and its objectives in a way that demonstrates a clear understanding of ethical responsibilities.
- Prepare various costing schedules where an analysis of cost classification, behaviour, and type is completed.
- Apply and analyze different types of activity-based management tools through the preparation of estimates.
- Analyze cost-volume-profit techniques to determine optimal managerial decisions.
- Prepare a master budget and demonstrate an understanding of the relationship between the components.
- Perform cost variance analysis and demonstrate the use of standard costs in flexible budgeting.
- Outline and apply management tools and techniques such as the balanced scorecard, operational performance measures, quality, and environmental cost management.
- Prepare analyses of various special decisions, using relevant costing and benefits.

Strategic Management (BBA33)

- Analyze the main structural features of an industry and develop strategies that position the firm most favourably in relation to competition and influence industry structure to enhance industry attractiveness.
- Recognize the different stages of industry evolution and recommend strategies appropriate to each stage.
- Appraise the resources and capabilities of the firm in terms of their ability to confer sustainable competitive advantage and formulate strategies that leverage a firm's core competencies.
- Demonstrate understanding of the concept of competitive advantage and its sources and the ability to recognize it in real-world scenarios.
- Distinguish the two primary types of competitive advantage: cost and differentiation and formulate strategies to create a cost and/or a differentiation advantage.
- Analyze dynamics in competitive rivalry including competitive action and response, first-mover advantage, co-competition and winner-take-all and make appropriate recommendations for acting both proactively and defensively.
- Formulate strategies for exploiting international business opportunities including foreign entry strategies and international location of production.
- Make recommendations for vertical changes in the boundary of the firm based on an understanding of the advantages of vertical integration and outsourcing and the factors that determine the relative efficiency of each.
- Make recommendations for horizontal changes in the boundary of the firm based on an understanding of the conditions under which diversification creates value.

- Demonstrate the ability to think critically in relation to a particular problem, situation or strategic decision through real-world scenarios.
- Recognize strategic decisions that present ethical challenges and make appropriate recommendations for ethical decision-making.

Managerial Economics (BBA34)

- Understand the roles of managers in firms
- Understand the internal and external decisions to be made by managers
- Analyze the demand and supply conditions and assess the position of a company
- Design competition strategies, including costing, pricing, product differentiation, and market environment according to the natures of products and the structures of the markets.
- Analyze real-world business problems with a systematic theoretical framework.
- Make optimal business decisions by integrating the concepts of economics, mathematics and statistics.

Office Management (BABA35A)

- The objective of this course is to move students beyond the theories of contemporary management principles to the practice of management skills in a highly participatory classroom environment.
- The course will help participants acquire practical management skills that are of immediate use in management or leadership positions.
- The early part of the course will focus on defining Management Skills and clarifying their importance in the workplace.
- Early work will also address self-awareness and the assessment of core management skills such as communication and providing effective feedback among the participants.
- As the course progresses, students will explore more advanced Management Skills such as conflict resolution, empowerment, working with teams and creating a positive environment for change.

Customer Relationship Management (BSBA36)

- Develop understanding about customer relationship management concepts and frameworks, and how these are applied to form relationships with customers and other internal and external stakeholders.
- Develop skills to analyse and synthesise information and issues, related to customer relationship management, from several perspectives.
- Enhance business communication skills required to work effectively within a marketing team.
- Analyse relationship theory and relationship economics from the point of view of the customer and the organisation.
- Critically analyse an organisation's relational strategies with stakeholder groups that affect how well it meets customer needs

- Evaluate CRM implementation strategies
- Formulate and assess strategic, operational and tactical CRM decisions.
- Plan and conduct an investigation on an aspect of CRM, and communicate findings in an appropriate format.

Management Concepts (BNBA37)

- To facilitate students' understanding of their own managerial skills.
- To improve communication skills.
- To learn from the management experience of others.
- To develop and learn about goals specific to the students of this class
- Have a lot of fun while learning a lot of stuff!
- To explain the basic concepts, principles, and processes of management.
- To expose students to the history of management thought.
- To explore organizational culture
- To use management thought to develop a better understanding of the ways in which gender, race, class, culture, and other contextual differences play out among people in the workplace.
- To examine the complexity of managing in a global world.
- To use management thought to develop a better understanding of motivation.
- To develop an ability to work with moral and ethical dilemmas and make decisions using critical thinking.
- To expose students to several models of leadership.

Materials Management (BBA41)

- Materials management deals with the flow of goods and services throughout an organization's production process, from order placement to product delivery.
- Materials managers seek to find the optimal processes to both satisfy customers and maximize company profits.
- Specific logistics management issues depend on the company or industry; however, programs that teach materials management skills usually also include courses in purchasing, inventory and production planning.
- Problem solving and analysis skills
- Understanding the management component of the field
- Knowledge of professional opportunities for management
- Differences between different kinds of management
- Tools and techniques utilized.

Business Environment (BBA43)

- Discuss the supply and demand theory and its impact on insurance.
- Explain the effects of government policy on the economic environment and insurance industry.
- Outline how an entity operates in a business environment.
- Describe how financial information is utilized in business.

- Explain the legal framework that regulates the insurance industry

Operation Research (BBA44)

- Identify and develop operational research models from the verbal description of the real system.
- Understand the mathematical tools that are needed to solve optimisation problems.
- Use mathematical software to solve the proposed models.
- Develop a report that describes the model and the solving technique, analyse the results and propose recommendations in language understandable to the decision-making processes in Management Engineering.
- Methodology of Operations Research.
- Linear programming:
- Solving methods, duality, and sensitivity analysis.
- Integer Programming.
- Network flows.
- Multi-criteria decision techniques.
- Decision making under uncertainty and risk.
- Game theory.
- Dynamic programming.

Organisational Behaviour (BABA45A)

1. Analyze individual and group behaviour, and understand the implications of organizational behaviour on the process of management.
2. Identify different motivational theories and evaluate motivational strategies used in a variety of organizational settings.
3. Evaluate the appropriateness of various leadership styles and conflict management strategies used in organizations.
4. Describe and assess the basic design elements of organizational structure and evaluate their impact on employees.
5. Explain how organizational change and culture affect working relationships within organizations.

♣ Develop in-depth knowledge on various tools and techniques of Total Quality Management

♣ Evaluate the principles of quality management and to explain how these principles can be applied within quality management systems.

♣ Develop a strategy for implementing TQM in an organization.

♣ Identify the key aspects of the quality improvement cycle.

♣ Select and use appropriate tools and techniques for controlling, improving and measuring Quality.

♣ Teamwork. Individual Work.

♣ Search, analysis and synthesis of data with the use of new technologies.

- ♣ Decision-making.
- ♣ Planning and management of projects.

Training and Development (BNBA47)

- Course Overview and Introduction to human resource development
- Strategic human resource development
- Adult Learning • HRD needs investigation and needs analysis
- Training design and development
- Traditional and electronic training methods
- Implementing learning strategies
- Evaluation of training
- Workplace Learning
- Employee and management development
- Special challenges and the future of training and development.

Marketing Management (BBA51)

- Identify core concepts of marketing and the role of marketing in business and society.
- Knowledge of social, legal, ethical and technological forces on marketing decision-making.
- Appreciation for the global nature of marketing and appropriate measures to operate effectively in international settings.
- Ability to develop marketing strategies based on product, price, place and promotion objectives.
- Ability to create an integrated marketing communications plan which includes promotional strategies and measures of effectiveness.
- Ability to communicate the unique marketing mixes and selling propositions for specific product offerings.
- Ability to construct written sales plans and a professional interactive oral sales presentation.
- Ability to formulate marketing strategies that incorporate psychological and sociological factors which influence consumers.
- Ability to collect, process, and analyze consumer data to make informed marketing decisions.
- Ability to analyze marketing problems and provide solutions based on a critical examination of marketing information.
- Ability to apply knowledge and skills to real-world experiences in an internship. Note: Specific outcomes will vary by assigned internship experience.

Business Law (BBA52)

- On completion of this course, learners will be able to: appreciate the relevance of business law to
- Individuals and businesses and the role of law in an economic, political and social context. Identify the fundamental legal principles behind contractual agreements.
- Examine how businesses can be held liable in tort for the actions of their employees.

- Understand the legal and fiscal structure of different forms of business organizations and their responsibilities as an employer.
- Acquire problem solving techniques and to be able to present coherent, concise legal argument.

Cost Accounting (BBA53)

- Discuss the role of cost accounting and quantitative analysis within the organization.
- Apply the principles relating to the costing and control of the different resource inputs into the business.
- Demonstrate costing methods and techniques appropriate to a variety of different business.
- Identify and calculate different types of costs (direct, indirect, variable, and fixed costs).
- Distinguish between job-costing, process-costing, and joint-costing systems.
- Determine the product cost by means of full- costing and direct-costing methods. Determine the product cost by means of historical (actual) and standard cost systems.

Computer Application In Business (BBA54)

- Identify Computer Concepts terminology and concepts; basic operating system functionality and terminology; and internet browsers functionality
- Apply basic and advanced formatting techniques skills to produce word processing documents, including Letters and Memos, Business Reports, Flyers, Newsletters.
- Demonstrate basic skills involving spreadsheet functions; create formulas, charts, and graphs; manipulate data; and generate reports including AutoFill, Absolute Cell References, Grouping sheets and linking formulas
- Develop a database; create and format tables, queries, and reports; and enter and modify table data.
- Develop and deliver business presentations using presentation software; Create presentations using text, visual and/or sound elements; use techniques as slide layout, themes, transitions and animations, charts and tables.

Human Resource Management (BEBA55A)

To have an understanding of the basic concepts, functions and processes of human resource management

- To be aware of the role, functions and functioning of human resource department of the organizations.
- To Design and formulate various HRM processes such as Recruitment, Selection, Training, Development, Performance appraisals and reward Systems, Compensation Plans and Ethical Behaviour.
- Develop ways in which human resources management might diagnose a business strategy and then facilitate the internal change necessary to accomplish the strategy
- Evaluate the developing role of human resources in the global arena.

E-Business (BSBA56)

- Discuss modern computing infrastructures from the perspective of the internet and organisations
- Discuss and explain theoretical and practical issues of conducting business over the internet and the Web
- Reflect on general principles revealed through practical exploration of specific tools, techniques and methods in e-business.

Industrial Relation and Labour Laws (BBA61)

- Provide students with knowledge of labour laws, especially the nature and scope of labour law, the rationale of labour laws in organizations, the international labour organization, the labour laws in Uganda, occupational hazards and risk, and managing employee relations at work.
- To examine the theoretical aspects, problems and issues in arbitration and bargaining and models of bargaining and arbitration.
- The nature and scope of labour laws
- The rationale of labour laws in organizations
- The international labour organization visa-viz the labour laws in Uganda and
- Managing employee relations at work.

Entrepreneurial Development (BBA62)

- Entrepreneurship and Innovation minors will be able to **sell themselves and their ideas**. Students master oral and visual presentation skills and establish a foundation of confidence in the skills necessary to cause others to act.
- Entrepreneurship and Innovation minors will be able to **find problems worth solving**. Students advance their skills in customer development, customer validation, competitive analysis, and iteration while utilizing design thinking and process tools to evaluate in real-world problems and projects.
- Entrepreneurship and Innovation minors will be able to **mobilize people and resources**. Students identify and secure customers, stakeholders, and team members through networks, primary customer research, and competitive and industry analyses in order to prioritize and pursue an initial target market in real-world projects.
- Entrepreneurship and Innovation minors will be able to **create value**. Students are able to create presentations and business plans that articulate and apply financial, operational, organizational, market, and sales knowledge to identify paths to value creation through 1) company formation (for-profit); 2) social innovation (nonprofit); or 3) intellectual property licensing.
- Entrepreneurship and Innovation minors will **develop and cultivate endurance**. Students increase their awareness and deliberately practice the skills and disciplines necessary to increase confidence and agency; foster self-efficacy and self-advocacy; improve communication and problem-solving skills manage strong impulses and feelings; and identify personal purpose.

Financial Management (BEBA63A)

- Introduce students to financial management and its importance and its applications in business, their relationship with the business environment and the role and functions of chief financial officer.
- Introduce students to financial planning, and objectives, and its benefits, and the types of areas and stages of financial planning, and the factors that help the success of financial planning. Introduce students to the methods used in financial planning to assess the short-term financial needs.
- Introduce students to time value of money and its relationship to the objectives of financial management, rationale for using the time value of money, and simple and compound interest and how to calculate it, and also to understand the present value of the future payments.
- Introduce students to major financial statements of businesses as well as the definition of the purposes and tools of financial analysis and its importance in the financial control process.
- Introduce students to the basics of investing in securities through exposure to the following points: knowledge of financial markets, and their components, and functions of the financial market, and the parties worked in the financial markets, the stock traded in the money markets and capital markets, then find out the efficiency standards of the financial market, as well as valuations of Shares and bonds.
- Giving students how to apply full financial cycle and makes the necessary adjustments on service and commercial installations.
- Giving student's of Application processors to finance small projects.

Marketing Research (BEBA64A)

- Marketing research is the foundation for building knowledge about the market. It’s an exciting and critical aspect of marketing.
- It covers a wide range of phenomena and it can help to answer many questions and reduce the uncertainty in decision making. This course is taught with a practice orientation.
- It is hoped that students will gain a practical and sound understanding of how marketing research is conducted in the real business environment.
- At the end of the course, you will become acquainted with SPSS, a statistical package commonly used by research houses, and you will be able to write research proposals, identify research problems, design survey questionnaires, analyze data and write a research report.

Creativity and Innovation Management (BSBA65)

- Creativity and innovation are integral to an organization’s ability to survive and thrive in today’s competitive marketplace.
- This course provides students with an understanding of how creativity and innovation can be facilitated and managed in a work setting. Students will learn about theoretical

conceptualizations of creativity and innovation as well as practical applications involved in fostering creativity and innovation in the workplace.

- Students will be expected to play an active role in learning through class exercises, class discussions, dialogue with guest speakers, and presentations about real (or planned) innovations in organizations.

Group Project (BPBA66)

- To help students to apply the concepts studied in the institution
- To gain on the field experience and identify present problems faced by the industry
- To help students gain career development skills
- To gain practical exposure that will bridge the gap of industrial expectation.

KRISHNASAMY COLLEGE OF SCIENCE, ARTS AND MANAGEMENT FOR WOMEN

DEPARTMENT OF ENGLISH

PROGRAM OUTCOME

To scrutinize the various Literary Forms.

To provide a profound background to the English Literature.

Students should be able to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.

To establish connections across frontiers of disciplines

Appreciate, interpret and critically evaluate literature

Distinguish between the different varieties of English used all over the world.

To develop critical thinking in students

To lead to a greater understanding of the human communicative action through an objective study of language.

To examine different genres of literature.

UG COURSE OUTCOME

INDIAN WRITING IN ENGLISH

COURSE OUTCOME

- Students will be able to examine the concepts of Indian English poetry
- Students will be able to understand the sense of loss of identity in immigrants
- Students will be able to understand the style of Indian poetry.
- Students will be able to inculcate the moral ideas of Swami Vivekananda and scrutinize the writing style adopted by Kushwantsingh
- Students will be able to know about the writing style of GirishKarnad
- Students will become familiar with popular myth

ADVANCED ENGLISH GRAMMAR

COURSE OUTCOME

- Students will be able to know about the types of sentences
- Students will be able to know about sentence pattern and its types
- Students will be able to distinguish the sentence pattern with the help of illustrations
- Students will be able to know about tense and its kinds
- Students will be able to familiar with concord

- Students will be made aware of verb and its kind
- Students will be able to understand phrases and clauses

LITERARY FORMS AND TERMS

COURSE OUTCOME

- Students will be able to understand how poetry requires a different writing style
- Students will be able to understand the traits of lyric, ode and sonnet, elegy and epic
- Students will be able to understand prose as writing with distinct style
- Students will be able to understand the basic traits of biography
- Students will be able to understand drama as a genre with distinct style
- Students will be able to absorb the principles of the absurd drama
- Students will be able to understand novel's characteristics
- Students will be able to understand few important literary terms

BRITISH LITERATURE

COURSE OUTCOME

- Identify the characteristic features of metaphysical poetry
- The students will be able to understand Milton's greatness as a pot
- The students will be able to know the purpose of studying and understand the greatness of books
- The students will be able to understand the social life of 17th century England
- The students will be able to understand Pilgrims Progress as an Allegory

AMERICAN LITERATURE

COURSE OUTCOME

- The student will be able to grasp the lyrical richness embedded in American Poetry
- The student will be able to admire and try to emulate the literature expertise of Walt Whitman, Emily Dickinson, E A Poe and Wallace Stevens
- The students will be able to judge the supremacy of American output and understand the real thoughts of the American writers
- The student will be able to judge the supremacy of American drama and fashion
- The students will come to know the great fiction writers of American Literature Ernst Hemingway

THE SOCIAL HISTORY OF ENGLAND

COURSE OUTCOME

- The comprehensive paper enables the students to understand the subject thoroughly and provides them the scope of their study. Helps them in the long run should go for their higher studies and appear for competitive examination such as NET, SET, TET etc.

PG PROGRAM OUTCOME

On completion of the program the student will be able to:

Interpret his/her understanding of form, structure, narrative technique, devices and style.

Analyze and apply various literary concepts and critical approaches.

Appreciate the importance of English as an international language, to benefit from the achievements of other cultures in accordance with various life situations.

Organize and integrate the acquired knowledge towards individualistic compositions.

Present, appraise and defend arguments with conviction and confidence.

PG COURSE OUTCOME

BRITISH POETRY (CHAUCER TO 20th CENTURY)

COURSE OUTCOME

- The student will learn about the metaphysical poets and their style of writings.
- The student will know about the love and lust towards opposite gender
- The student will be able to differentiate the various types of sonnets
- The student will enjoy the beauty of the nature and imagination
- The student will understand the romantic life of the poets
- The student will differentiate the changes of language and style

AMERICAN LITERATURE

COURSE OUTCOME

- The student will come to know the prominent women writers
- The student will able to distinguish the various thinking of American society
- The student will understand transcendentalists and naturalists
- The student will receive the seclusion temper and patriarchal society
- The student will learn the reality of working classes and middle classes living in cities

INDIAN LITERATURE IN ENGLISH

COURSE OUTCOME

- The student will be able to know the importance of translation in various works
- The student will know the sufferings and submissive conditions of people
- The student will know the childhood sufferings and search for identity through short stories
- The student will learn the myths and ethics of Indians
- The student will know how to write the script. The student will be inspired by various motivational writings

ADVANCED LINGUISTICS

COURSE OUTCOME

- The student will follow the proper pronunciation of the words
- The student will learn how to communicate effectively in various places
- The student will easily know the difference between linguistics and non- linguistics
- The student will link the relationship between language and literature
- The student will enjoy the dialects of various places and persons
- The student will think about the multi-lingualism

INDIAN WRITING IN TRANSLATION

COURSE OUTCOME

- To demonstrate the understanding of the social and artistic movements that have shaped theatre and dance as we know it today.
- Apply discipline to specific skills in learning creative performance. Analyze and interpret texts and performances both in spoken and written form.
- This encourages economy of setting, concise narrative and the omission of a complex plot: character is disclosed in action and dramatic encounter but is seldom fully developed.
- Despite its relatively limited scope a short story is often judged by its ability to provide “a complex” or justifying treatment.
- We can demonstrate knowledge and comprehension of major texts and traditions of language and literature written in English as well as their social, cultural, theoretical and historical contexts.

BRITISH DRAMA

COURSE OUTCOME

- Apply discipline – specific skills to the creation of performance
- Draw connections between theatrical practices and social contexts in both modern and pre-modern periods.
- They will demonstrate proficiency in specific skills like: acting, directing, choreography, play-writing or dramaturgy.
- They will be able to analyze, interpret and evaluate the dramatic literature and theatrical productions.

TRANSLATION THEORY IN WORLD LITERATURE

COURSE OUTCOME

- The learner knows about the history of translation and its practice.
- Interpretation of SL and TL can be done.
- Reproduction of the translation and the process and product can be understood.
- Problem and solution of the translation and the equivalence of the translation can be learned.
- Translation is done in practice.

CONTEMPORARY LITERARY THEORY - I

COURSE OUTCOME

It reinforces the student's literary competence.
The students will develop an independent critical persona.
The students can understand the various types of theories
Theories after the 20th century is learned

NEW LITERATURE IN ENGLISH

COUSE OUTCOME

- The Learner can experience the poetry from various countries such as Canada, Australia and New Zealand.
- Can understand the Alienation among the works of the writers who belongs to different regions
- The Criticism of the New Literature is also taught to the students.

SUBALTERN LITERARY STUDIES

COURSE OUTCOME

- The learner can re-explore the political, social and economic role in literature.
- Can understand the feelings of the exploited.
- The analysis of political role in the subaltern literature can be done.
- Critical Analysis of the text and theme can be undertaken by the learner.

INDIAN DIASPORA LITERATURE

COURSE OUTCOME

- The learner can sketch the definition and scope of the Indian Diaspora Literature.
- The meaning and usage of the term "Diaspora literature".
- Diasporic Communities feelings can be understood from the various parts of the countries throughout the world.
- The circumstances for the formulation of Diasporic Communities can be experienced

JOURNALISM AND MASS COMMUNICATION

COURSE OUTCOME

- The students can learn about the history and Ideologies of the print media.
- The Characteristic of the Newspaper is introduced to the learners.
- The learners can acquaint the Techniques and writings of the Print Media.
- The importance of the mass media in the society can be understood by the readers

DEPARTMENT OF MATHEMATICS

PROGRAM OUTCOME

Students who successfully complete the UG mathematics major will be able to:

- Demonstrate an understanding of the foundations and history of mathematics
- Perform computations in higher mathematics
- Read and understand middle-level proofs, write and understand basic proofs
- Develop and maintain problem-solving skills
- Use mathematical ideas to model real-world problems
- Communicate mathematical ideas with others
- Utilize technology to address mathematical ideas

With that skill set, graduates are well prepared to begin rewarding careers in:

- education
- statistics
- actuarial science
- mathematics, both pure and applied

By the end of a degree program in Mathematics, a student will have the versatility to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other positions.

Students who successfully complete the PG mathematics major will be able to:

- To cultivate a mathematical attitude and nurture the interests,
- To motivate for research in mathematical sciences,
- To train computational scientists who can work on real life challenging problems

Students who successfully complete the M.Phil mathematics major will be able to:

- Gain a knowledge of advanced models and methods of mathematics, including some from the research frontier of the field, and expert knowledge of a well-defined field of study, based on the highest international level of research in mathematics.
- The graduate has specific skills in independently comprehending, analysing, modelling, and solving given problems at a high level of abstraction based on logical and structured reasoning.

The graduate is able to carry out scientific investigations and develop new variants of the acquired methods, if required by the problem at hand.

Course outcomes
I - B.sc., Mathematics

Subject: Algebra

- Students are exposed to topics like series.
- Students are exposed to topics like number theory.
- Algebra also opens up whole new areas of life problems, such as graphing curves that cannot be solved with only foundational math skills

Subject: Trigonometry

- It aims to develop computational skills.
- Trigonometry is used to set directions such as the north south east west.
- ***Trigonometry*** Can Be Used to Measure the Height of a Building or Mountains · Measuring fields, lots, and areas.

Subject: Professional English

- Improve your vocabulary, your grammar, and your writing skills at the same time.
- Learn English more quickly, lots of reading is important.
- Input brain gets about how the language works.

Subject: Calculus:

- It increases the knowledge in the areas of differential and integral calculus.
- Calculus is used in every branch of the **physical sciences**, actuarial science, and computer science.

Subject: Analytical Geometry

- To deepen the knowledge of the students in various concept of analytical solid geometry.
- Analytic geometry is used in physics and engineering, and also in aviation, rocketry, space science, and spaceflight.

Subject: Mathematical Statistics

- To apply statistics methods for mathematical problem.

II - B.sc., Mathematics

Subject: Differential Equations

- To expose to different technique of finds solution to these equations.
- The primary purpose of the differential equation is the study of solutions that satisfy the equations and the properties of the solutions.

Subject: Vector Analysis& Fourier Analysis

- To develop deep understanding of key concept followed by problems of applied natural.

- This will lead to post graduate studies and research in par as well as applied maths.

Subject: Linear Programming

- To improve the skills of solving very common problems which we come across in various field.
- Linear programming is used for obtaining the most optimal solution for a problem with given constraints.

Subject: Numerical methods

- It deals with solution of numerical differentiation, Integration, Difference equation and algebraic equations.
- **Numerical analysis** is the study of algorithms that use numerical approximation (as opposed to symbolic manipulations) for the problems of mathematical analysis.

Subject: Mathematics for competitive examinations

- To introduce the concept of mathematics with embassies on analytical ability
- Computational skill needed in competitive examinations.

III - B.sc., Mathematics

Subject: Abstract Algebra

- These algebraic structures have applications in mathematical physics, chemistry and computer science.
- It provides another way to look at the same problems of classical algebra.

Subject: Real Analysis

- To understand various limiting behaviour of sequence and series and to enhance the mathematical maturity.

Subject: Complex Analysis

- To gain the knowledge about the complex number system, complex function and integration.

Subject: Statics

- To development of skills, information of suitable mathematical models and problem solving technique.

Subject: Dynamics

- To provide models for some real life problems and it develops logical deduction and interpretation.

Subject: Graph Theory

- To study and develop all the concept of graphs matching, covering and planer graph.

Subject: Linear Algebra

- To study the algebraic structure of vector space and linear transformation.

Subject: Programming in C - Language

- To develop programming skill in the computer language c.

Subject: Operations Research

- To develop computational skill and logical thinking in formulating industry oriented problems.

Subject: Fuzzy Mathematics

- To know the fundamentals of fuzzy algebra and application of fuzzy technology.

I M.sc., Mathematics

Subject: Algebra

- To introduce the concept and to develop working knowledge on class equation and real quadratic forms.

Subject: Real Analysis

- To work comfortably with functions of bounded variation of convergence and uniform convergence.

Subject: Ordinary Differential Equations

- To develop the strong back ground on finding solutions to linear differential equations.

Subject: Differential Geometry

- It introduces space curves and there intrinsic properties of surface and geodesic.

Subject: Graph Theory

- To study and develop the concepts of all graphs connectivity, cycling.

Subject: Partial Differential Equations

- To introduce to the students the various types of partial differential equations and how to solve the equations.

Subject: Mechanics

- To study the mechanical systems under generalise co-ordinate systems.

Subject: Programming in C++

- Files store data permanently in a storage device.
- Learn file handling, the output from a program can be stored in a file.

II M.Sc., Mathematics

Subject: Complex Analysis

- To study the Cauchy integral formula, definite integral and harmonic functions.

Subject: Topology

- To study topological spaces connectedness and compactness.

Subject: Operations Research

- It aims to introduce decision theory, PERT,CPM and maintenance problems.

Subject: Fluid Dynamics:

- It aims to discuss kinematics of fluid, three dimensional flows and viscous flows.

Subject: Functional Analysis

- To study the details of Banach and Hilbert spaces and to introduce Banach Algebras.

Subject: Difference Equations

- To introduce the process of discretization, discrete version of differential equations and solutions of difference equations.

Subject: Number Theory and Cryptography

- This aims to give elementary ideals from number theory which will have applications in cryptography.

DEPARTMENT OF B.C.A
CBCS PATTERN (With effect from 2020-2021)

PROGRAM OUTCOME

- The objective is to motivate the students in emerging technologies and acquire knowledge in various domains.
- Career options after BCA the students can apply the optical & practical tools /techniques as Computer programmer ,Computer system analyst, System administrator, Computer support service specialist, higher studies like MCA, Projects in IT Companies.
- As software developers for designing, installing, testing & maintenance of software
- Technical writer/Developers
- Web Designer

COURSE OUTCOME

Programming in C

After the successful completion of this course, students will be able to

- Understand the basics of C programming
- Write, compile and debug programs in C language.
- Use different data types in a computer program.
- Design programs involving decision structures, loops and functions with call by value and call by reference
- Illustrates the use of pointers and Structures.
- To perform basic operations like create/update on basic data files.

Environmental studies

Creating awareness among the students about the importance of environment, the effect of technology on the environment and ecological balance is the important aim of the course.

After the successful completion of this course, students will be able

- Awareness about the importance of environmental studies and methods of conservation of natural resources.
- Explains the structure and function of an ecosystem.
- Identify the values and conservation of bio-diversity.
- Demonstrates the causes, effects and control measures of various types of pollutions.
- Select the appropriate methods for waste management.
- Acquire the knowledge about various disaster management methods

Programming in C lab

This course is designed to provide a practical knowledge of how to write, compile and debug programs in C language. After the successful completion of this lab Course, students will be able to:

- Enhance the analyzing and problem solving skills by writing programs in C.
- Draw flow charts and develop a well documented and indented program according to coding standards.
- Learn to debug a given program and execute the program
- To implement Array, Function and Pointers.

C++ & Data structure

This course is designed to provide more knowledge about C++ & Data structures.

- This emphasizes more about C++, which provide students a clear understanding of object-oriented concepts & its programming through C++. Also, it explains various data structures & operations performed using algorithm and examples.

C++

After the successful completion of this course, students will be able to

- Acquire the basic knowledge on Object Oriented concepts.
- Build applications using Object Oriented Programming Concepts.
- Demonstrate the differences between traditional imperative designs and object oriented design.
- Elaborate class structures as fundamental, modular building blocks.
- Understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code.
- Write small/medium scale C++ programs with simple graphical user interface.
- Understand the file handling and error handling mechanisms in C++.
- Get knowledge to use strings and Streams in C++.

Data structure

After the successful completion of this course, students will be able to

- Demonstrate various data structures & its operations using algorithms.
- Demonstrate understanding of the abstract properties of various data structures such as stacks, queues, lists, trees and graphs and Use various data structures effectively in application programs.
- Demonstrate understanding of various sorting algorithms, including bubble sort, insertion sort, selection sort, heap sort and quick sort.
- Illustrates the various applications of data structures like infix to postfix conversion.
- Demonstrates more about linked lists, doubly linked lists & its operations.
- Understand and apply fundamental algorithmic problems including Tree traversals, Graph traversals, and shortest paths.
- Gain knowledge about Hashing and Collisions and B- Trees.

C++ & Data structure lab

This course is designed to provide a practical knowledge of how to write, compile and debug programs in C++ language. It is also used to solve problems and implement data structure algorithms in C++.

After the successful completion of this lab Course, students will be able to

- Build applications using Object Oriented Programming Concepts.
- Acquire knowledge about the basic concept of writing a C++ program.
- Understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code.
- Get practical knowledge about the application of data structures.
- Implement linked list data structure to solve various problems.
- Apply graph and tree traverse technique to various applications.
- Understand and apply various data structure such as stacks, queues, trees and graphs to solve various computing problems using C++-programming language.
- Various sorting techniques can be implemented using C++ programs.

Value Education

This course is designed to provide moral values to the students. It also inculcate

After the successful completion of this lab Course, students will be able to

- Explains the concept of human values
- Explains about the Components, structure & responsibility of family

- Reveals about status of women in society
- Reveals about ethics on family & society
- Demonstrates about psychology of children and youth
- Explains personality development & leadership qualities
- Demonstrates about social values & its awareness
- Explains about environmental issues

Programming In Java

- Knowing about a General-purpose and Purely object-oriented programming language including data types, control statements, and classes
- Secured, well-suited for internet programming using applets and GUI-based
- Students are able to know about a General-purpose and Purely object-oriented programming language including data types, control statements, and classes
- Students are able to Secured, well-suited for internet programming using applets and GUI-based

E Commerce

- Students gain knowledge about commerce through electronic medium and information system.
- Knowing about the concepts of security and basic knowledge of E-Payments.
- Students gain knowledge about EDI and trading relationship.

Web Technology

- Introducing the concepts of control statements and looping statements in VB-Script, Java Script, .ASP.
- Specifying the concepts of cookies in Java Script.
- Introducing the concepts of OLEDB connections.

Introduction to Information Technology

- Students understand Major components of Computer System and its working principles.
- Students learn and understand the Role of an Operating System and basic terminologies of networks.
- Students understand how the Information Technology aids for the Current Scenario.
- Students understand the Computer Software.
- Students understand internet applications

Programming In Java Lab

- Gain knowledge about OOPs concepts.
- To understand the concepts of Layout Manager.
- Build applications using Applets
- Implementation of Exception handling, Multi threading and IO streams.
- Implementation of Database connectivity

Relational Database Management Systems

- Describe the database architecture and its applications Sketch the ER diagram for real world applications Uses various ER diagram for a similar concepts from various sources.
- Discuss about the relational algebra and calculus Construct various queries in SQL and PL/SQL Compiles various queries in SQL, Relational Calculus and Algebra.
- Describe the various normalization forms Apply the normalization concepts for a table of data Practices a table and implement the normalization concepts.
- Explain the storage and accessing of data.
- Illustrate the query processing in database management. Define the concurrency control and deadlock concept

Relational Database Management Systems Labs

- Design and Implement a database schema for a given problem domain.
- Populate and Query a database using SQL DDL/DML Commands.
- Build well formed in String Date/Aggregate Functions.
- Design and Implement a database query using Joins, Sub-Queries and Set Operations.
- Program in SQL including Objects (Functions, Procedures, Triggers)

Enterprise Resource Planning

- The students are able to understand the business process, business function.
- The students are able to understand the exchange of information and prepare balance sheets.
- Gain knowledge about inter relationship concepts and techniques.

Wireless Data Communication

- To understand the concepts of basic OSI layers.
- To understand the concepts of signals and transmission media.
- To understand the basic concepts of error detection and DLC
- To understand the Characterize of wireless transmission technologies
- To understand the concepts of Security.

Internet of things

This course presents the Introduction to IoT, M2M, IoT Architecture, IoT Model and Views, IOT protocols and Real world design constraints enable the students to learn the concepts of IoT.

- To understand the fundamentals of Internet of Things.
- To understand the M2M and IoT Architecture
- To understand the IoT Model And Views
- To learn about the basics of IOT protocols.
- Analyze applications of IoT in real time.

Internet Technology

- Students understand the Fundamentals of Internet, Connectivity and its Resource Requirements.
- Students understand the Internet Technology and its applications
- Students understand the basis of WWW and Web Browsers.
- Students learn how to Mailing system and applications of Internet.
- Students Understand relay chat that is how to read e- contents.

Mobile Applications Development

This course aims to provide the students with a detailed knowledge on Mobile Application Development and Deployment about Android programming from basics to building mobile applications for digital world.

- Determine solutions using problem solving principles, logic and systematic methodologies.
- Evaluate the architecture and principles of operation of computer systems and networks.
- Synthesize principles and theories of computer science and software engineering for application to different computing paradigms.
- Design and develop software systems for various application domains.
- Design and develop secure enterprise-grade information systems.
- Manage the development of software systems through a variety of development processes and methodologies.
- Design effective user interfaces using human computer interaction principles.
- Synthesize new knowledge in the field of computer science by using appropriate research methodologies.

Operating System

Enable the student to get sufficient knowledge on concepts, functions and various system resources of operating systems.

- Demonstrates different types of modern operating systems and their structure of implementation and applications.
- Understand the difference between process & thread, issues of scheduling of user level processes / threads and their issues & use of locks, CPU scheduling and multithreaded systems.
- Gain knowledge about the concepts of deadlock in operating systems and how they can be managed / avoided and implement them in multiprogramming system.
- Demonstrate the design and management concepts along with issues and challenges of main memory, virtual memory and file system.
- Understand the types of I/O management, disk scheduling, protection and security problems faced by operating systems and how to minimize these problems.
- Illustrates the case study of UNIX operating system.

Design and Analysis Of Algorithms

- The objective of the course is to teach techniques for effective problem solving in computing.
- The use of different paradigms of problem solving will be used to illustrate clever and efficient ways to solve a given problem.
- In each case emphasis will be placed on rigorously proving correctness of the algorithm.

Data Mining

To enable the students to understand the importance of Data Mining and its techniques with recent trends and tools.

- Understand the data extraction and transformation techniques.
- List the association rule mining techniques and understand association mining to correlation analysis, constraint based association mining.
- Understand operational database, warehousing and multidimensional need of data base to meet industrial needs.
- Understand the components of warehousing, classification methods and clustering analysis.
- Identify and understand the Business analysis, query tools and application, OLAP etc.

Information Security

To enable the student to understand various methodologies available for securing information.

- The basic concepts of Information Security
- The legal, ethical and professional issues in Information
- To know about risk management
- To understand the technological aspects of Information Security
- To understand the concepts of Cryptography and Hacking methods

Software Testing

To study the concepts of software engineering with the aim of acquiring skills to develop Software applications, following all standardized procedures and techniques.

- To understand the concept of software testing, and software quality
- To learn to inspect and detect errors by going through each and every code segment
- To gain knowledge of various functional and structural testing techniques
- To understand basic concept of Software Management tools and object oriented testing
- To understand basic concept of Software quality and software quality assurance

Software Engineering

This course is intended to provide the students with an overall view over Software Engineering discipline and with insight into the processes of software development.

- Introduces the concepts and methods required for the construction of large software

intensive systems.

- Gets the idea of choosing the Requirements in Software Engineering.
- Gives an understanding the concept of Data Engineering.
- To impart knowledge on Testing and Debugging.
- To enable the students to learn the basic of Project Management & Scheduling.

Open Source Software

To study the concepts of open source techniques that can be effectively applied in practice about HTML5, JavaScript, PHP, and PERL.

- To understand the concept of HTML, HTML5 and CSS.
- To learn to inspect and detect errors by going through each and every code segment.
- To understand basic concept of Java Script and MySQL.
- To understand basic concept of PHP
- To understand basic concept of PER

Python Programming

- Students are able to explore the fundamental concepts of Python
- Students are able to understand Basics of Python programming language
- Students are able to solve simple problems using Python
- Students are able to acquire fundamental knowledge and skills on Python Programming
- Students are able to understand the nuances of this language.
- Students are able to know the usage of modules and packages in Python
- Students are able to familiarize with file concepts in Python
- Students are able to familiarize with web concepts using Python.

Big Data Analytics

- To explore the fundamental concepts of big data analytics.
- To learn to analyze the big data using intelligent techniques and mining data stream.
- To understand the applications using Map Reduce Concepts.
- To explore the fundamental concepts of big data analytics.
- To learn to use various techniques for mining data stream.
- To learn the Big data Business Perspective
- To understand the applications using Map Reduce Concepts.

Cryptography

- Understand various Security practices and System security standards
- Understand different cryptographic operations
- Understand the various Authentication schemes to simulate different applications.

- Understand OSI security architecture and classical encryption techniques**.**
- Understand the different cryptographic operations of symmetric cryptographic algorithm**s.**

- Understand the different cryptographic operations of Public key cryptographic algorithms.
- To make use of application protocols to design and manage a secure system.
- To learn the configuration and manage E–mail and WLAN Security.

Digital image processing

This course enables the student knowledge about various image processing concepts like enhancement, restoration, segmentation, compression and recognition.

- To know the basics of Digital image and techniques.
- To understand various Image enhancement ideas.
- To understand Image restoration techniques.
- To understand degrees of image resolution and compression methods.
- To understand concepts of image representation and recognition.

Artificial intelligence

To induce the innovative ideas of students, related to Robotics, Artificial Intelligence and Machine Learning. This course enables the student's level to compete in the world of information and technology era.

- To know the basics of Artificial Intelligence.
- To Understand the Methods and algorithms in AI.
- To learn to represent knowledge in solving AI problems.
- To Understand Statistical logics and know about Software agents.
- To learn how Machine learning is related to AI.

System software

To have an understanding the basic design of assemblers, loaders, linkers, macro processor.

- To understand the basic concepts of system software
- Ability to trace the path of a source code to object code and to executable file
- To design and implementation of loaders and linkers
- To understand the concepts of macro processor
- Ability to analyze the functions of compilers

Mobile computing

- To enable the students to learn the basic functions, principles and concepts of mobile computing Systems.
- To understand the concepts in Mobile Applications.
- To understand the concepts of Mobile Computing Services.
- To enable the Students to learn Challenges of wireless communication, wireless networks, protocols and voice networks.

Object Oriented Analysis and Design

- The students learn the basics of OO analysis and design skills.
- Study about appropriate object model and design patterns.
- Gain knowledge about UML analysis and design patterns.
- To learn development of applications in mobile computing platform.

DEPARTMENT OF PHYSICS

Course Title: Mechanics

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals of vectors and able to formulate the expression for projectiles.
- After studied unit-2, the student will be able to study the dynamics of rigid bodies in terms of moment of inertia and also able to fine the moment of inertia of different systems.
- After studied unit-3, the student will be able to define work, energy and also able to understand the oblique impact between smooth spheres.
- After studied unit-4, the student will be able to learn the elastic property of the solid materials and also derive the relation between elastic modules.
- After studied unit-5, the student will be able to explain the concept of gravitation and able to know the principles of rocket and satellite

Course Title: Heat and Thermodynamics

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals of heat and capacity able to explain the kinetic theory of gases.
- After studied unit-2, the student will be able to describe the conduction and radiation of heat ane also able to study the Joule-Kelvin effect based on the low temperature phenomena and its applications.
- After studied unit-3, the student will be able to cite the laws of thermodynamics and their applications
- After studied unit-4, the student will be able to explore the equations governing second law of thermodynamics and entropy
- After studied unit-5, the student will be able to explain Phase-space, micro and macro states and able to distinguish MB, FD and BE statistics

Course Title: Electricity, Magnetism & Electromagnetism

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals coulomb's law and Gauss's law and also able to derive the expression for electric potential, capacitance of a parallel plate capacitor.
- After studied unit-2, the student will be able to derive the expression for temperature Coefficient resistance of a coil using Carey Foster's Bridge and able to know how to calibrate the ammeter and voltmeter, able to learn the thermo electricity concept.
- After studied unit-3, the student will be able to explain the concepts of self and mutual inductance using electromagnetic induction phenomenon.
- After studied unit-4, the student will be able to distinguish the dia, para and ferro Magnetic materials based on different theories.
- After studied unit-5, the student will be able formulate the expression for displacement current and Maxwell's equations.

Course Title: Basic Electrical Technology

Course Outcomes

- After studied unit-1, the student will be able to know principle of Voltage, Current,
- Resistance, Ohm's law and Electrical safety.
- After studied unit-2, the student will be able to distinguish between cells and batteries and able to explain the different types of batteries.
- After studied unit-3, the student will be able to understand the Wheastone's bridge, Thevenin and Norton's theorem and also able to describe the function of DC generator and motor.
- After studied unit-4, the student will be able to know the fundamentals of alternating currents and voltages and able to differentiate the single phase and three phase connections.
- After studied unit-5, the student will be able to acquire the principle and construction of transformers and its types and also able to demonstrate the function of AC generator.

Course Title: Waves and Optics

Course Outcomes

- After studied unit-1, the student will be able to formulate the equation for plane
- progressive wave and able to understand the concept of simple harmonic motion and other types of waves
- After studied unit-2, the student will be able study the property of surface tension of a
- liquid and know how the surface tension varies with temperature and also able to explain the property of viscosity of a liquid.
- After studied unit-3, the student will be able to describe the different optical of a lens
- system and able to design the eyepieces. Also able to know the phenomenon of
- interference and its applications.
- After studied unit-4, the student will be able to distinguish between Fresnel class of
- diffraction and Fraunhofer class of diffraction. Also formulate the expression for resolving power of telescope, microscope, prism and grating.
- After studied unit-5, the student will be able to explain the phenomenon of polarization and able to study the double refraction in uniaxial crystals. Also they can define optical activity, specific rotation and know the applications of polaroids.

Course Title: Physics Workshop Skills

Course Outcomes

- After studied unit-1, the student will be able to test the instruments with specific skills
- After studied unit-2, the student will be able to express the functions and working of Linear power supply.
- After studied unit-3, the student will be able to know the basics of analytical instruments and how to calibrate it.
- After studied unit-4, the student will be able to explain mobile communication and radar communication system.
- After studied unit-5, the student will be able to demonstrate the principle and working of various biomedical equipment.

Course Title: Atomic and Molecular Physics

Course Outcomes

- After studied unit-1, the student will be able to know the properties of cathode rays and positive rays. Also will be able to study the determination of specific charge of an electron.
- After studied unit-2, the student will be know the different atom models and can get an idea about coupling schemes..
- After studied unit-3, the student will be able to study the Zeeman effect, Paschen Back effect and Stark effect.
- After studied unit-4, the student will be able to know the basic idea of photoelectric effect and can able to derive the equation for Einstein's photoelectric equation.
- After studied unit-5, the student will be able to study the rotational and vibrational energy of a molecule and also learn the Infrared spectra, Raman Effect and Laser.

Course Title: Relativity and Quantum Mechanics

Course Outcomes

- To teach the fundamental aspects of relativity and special theory of relativity.
- Ability to understand the concepts of matter waves and to study the phase velocity and group velocity.
- To learn the Heisenberg's Uncertainty Principle and to derive the time dependent and time independent Schrödinger equation.
- To apply the Schrödinger's equation to various quantum mechanical systems.

Course Outcomes

- After studied unit-1, the student will be able to know the frames of reference and able to formulate the Galilean Transformation equations and Lorentz Transformation equations.
- After studied unit-2, the student will be understand the matter waves and can derive an equation for de Broglie wavelength. Also able to distinguish between phase velocity and group velocity and demonstrate Davison &Germer experiment.
- After studied unit-3, the student will be able to state the Heisenberg's Uncertainty
- Principle and able to derive the time dependent and time independent Schrödinger's equations.
- After studied unit-4, the student will be able to know the basic idea of photoelectric effect and can able to derive the equation for Einstein's photoelectric equation.
- After studied unit-5, the student will be able to learn postulates of quantum mechanics, operators and also able to acquire knowledge on Dirac's bra and ket notations.

Course Title: Basic and Applied Electronics

Course Outcomes

- After studied unit-1, the student will be able to classification of solids on the basis of band theory and know the construction, working and applications of semiconducting diodes and transistors.

- After studied unit-2, the student will be able to design the RC-coupled amplifier and to study its frequency response curve. Also students will be able to classify the power amplifiers, to learn the h-parameters and to able to design oscillator circuits.
- After studied unit-3, the student will be able to understand the multivibrators using transistors and can able to study the different wave shaping circuits.
- After studied unit-4, the student will be able to know the basic idea of integrating circuits and able to fabricate diode, transistors, resistor and capacitors. Also students will be study the structure of operational amplifier and its parameters.
- After studied unit-5, the student will be able to analyze the different applications of op-amp circuits like adder, subtractor etc and also able to demonstrate 555 Timer and its applications.

Course Title: Digital Electronics

Course Outcomes

- After studied unit-1, the student will be able to gain knowledge between different types of number systems, and their conversions. Also able to study the various Binary codes and to design basic logic gates.
- After studied unit-2, the student will be able to describe laws of Boolean Algebra, De Morgan's theorems. Also able to demonstrate K-Map and simplification of logic expressions and to design universal gates using NAND and NOR gates.
- After studied unit-3, the student will be able to explain the Multiplexer, Demultiplexer and Decoder. Students can know the functions of various Flip-Flop circuits.
- After studied unit-4, the student will be able to conceptualize the classification of registers and counters.
- After studied unit-5, the student will be able to know how to convert digital to analog and analog to digital using different methods.

Course Title: Cell Phone Technology

Course Outcomes

- After studied unit-1, the student will be able understand the cellular communication system.
- After studied unit-2, the student will be able to study the smart phones and various mobile standards like 1G,2G, etc.
- After studied unit-3, the student will be able to learn chip level information and soldering and desoldering the various components.
- After studied unit-3, the student will be able to understand the network problems and SIM card problems and to learn the trouble shooting process.
- After studied unit-5, the student will be able to know how to use the ultrasonic cleaner, mobile virus and other service tools.

Course Title: Nuclear and Particle Physics

Course Outcomes

- After studying Unit 1, the student will have a clear idea about the fundamentals of nucleus and its structure.
- After studying Unit 2, the student would have understood the concept of radioactivity.
- After studying Unit 3, the student will be having a clear understanding of the design

and working of particle accelerators and detectors.

- After studying Unit 4, the student will be having a thorough understanding about the nuclear reactions and nuclear reactors.
- After studying Unit 5, the student would have gained adequate knowledge about the elementary particles like pions, muons, hyperons etc.

Course Title: Solid State Physics

Course Out Comes

- After studied unit-1, the student will be able to Distinguish between crystalline and amorphous solids, Classify the crystal systems and able to understand the crystal structure
- After studied unit-2, the student will be able to Relate the X-ray diffraction with crystal structure and explain the various differences in properties of solids due to crystal imperfections
- After studied unit-3, the student will be able to understand the different types of bonding in crystals, apply this to understand the optical , specific heat capacity of solids
- After studied unit-4, the student will be able to gain the knowledge of magnetism in Materials and able to distinguish different magnetic materials. Also able to understand the phenomena of superconductivity and their applications
- After studied unit-5, the student will be able to explain the electric polarization in dielectric materials and also gain the knowledge in dielectric breakdown mechanisms in a dielectric material.

Course Title: Material science

Course Outcomes

- After studied unit-1, the student will be able to know the origin engineering materials and its classification. Also students will be able to learn the bonding character and its Properties

- After studied unit-2, the student will be able to describe mechanical properties like elastic behaviour and thermal properties like heat capacity, thermal conductivity etc.
- After studied unit-3, the student will be able to know the basics of polymers, ceramics and nano material.
- After studied unit-4, the student will be able to explain definition and types of smart materials.
- After studied unit-5, the student will be able to conceptualize the energy storage materials.

Course Title: Medical physics

Course Outcomes

- After studying Unit 1, the student will have a clear idea about the fundamentals of the production and characteristics of X-rays.

- After studying Unit 2, the student would have understood the concept of radiation units and radiation detectors.

- After studying Unit 3, the student will have a clear understanding of the design and working of Medical imaging techniques and computer tomography scanner.

- After studying Unit 4, the student will be having a thorough understanding about the diagnostic nuclear medicine and some medical instrumentation.

- After studying Unit 5, the student would have gained adequate knowledge about the protective measures to be undertaken in radiation therapy.

Course Title: Weather forecasting

Course Outcomes

- After studied unit-1, the student will be able to study the atmosphere and its physical structure and also to know the variation of pressure and temperature with height.
- After studied unit-2, the student will be able to describe the measurement of wind speed, direction humidity, rainfall and can state the radiation laws.
- After studied unit-3, the student will be able to explain the global wind systems and able to know thunderstorms and cyclones.
- After studied unit-4, the student will be able to conceptualize the classification of climate, ozone depletion, acid rain and environmental hazards due to climate change.
- After studied unit-5, the student will be able to understand the analysis and historical background of weather forecasting and know the predictability, probability of forecasts.

Course Title: Properties of matter and acoustics

Course outcome

- After studied unit-1, the student will be able to study the concept of Hooke's law, Poisson's ratio and determination of modals
- After studied unit-2, the student will be able to understand the bending moments of beams
- After studied unit-3, the student will be able derive the surface tension and viscosity with respect to temperature
- After studied unit-4, the student will be able derive the reverberation and sabine's formula
- After studied unit-5, the student will be able explain ultrasonic testing and various NDT testing methods

Course Title: Thermal physics and statistical methods

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals of conduction , radiation and able to explain the widemann's franz law and black body radiation.

- After studied unit-2, the student will be able to describe the liquefaction of helium and hydrogen, also able to study the joule Kelvin effect based on the low temperature phenomena and its applications.
- After studied unit-3, the student will be able to cite the laws of thermodynamics and their applications
- After studied unit-4, the student will be able to explore the equations governing third law of thermodynamics and entropy
- After studied unit-5, the student will be able to explain Phase-space, micro and macro states and able to distinguish MB, FD and BE statistics

Course Title: Electricity and magnetism

Course Outcomes

- After studied unit-1, the student will be able to know fundamentals coulomb's law and Gauss's law and also able to derive the expression for electric potential, capacitance of a parallel plate capacitor.
- After studied unit-2, the student will be able to derive the expression for temperature coefficient resistance of a coil using Carey Foster's Bridge and able to know how to calibrate the ammeter and voltmeter.
- After studied unit-3, the student will be able to explain the thermoelectricity concepts.
- After studied unit-4, the student will be able to able formulate the expression of faraday's law of electromagnetic induction and coefficient of coupling.
- After studied unit-5, the student will be distinguishing the dia, para and ferro magnetic materials and also able to learn the concepts of magneto statics.

Course Title: Electrical appliances

Course Outcomes

- After studied unit-1, the student will be able to know principles of voltage, current and electric potential.
- After studied unit-2, the student will be able to understand the ohm's law, voltmeter, analog and digital multimeter.
- After studied unit-3, the student will be able to distinguish between AC and DC, single and three phase current, star and delta connections.
- After studied unit-4, the student will be able to able principles and construction of invertors, generators, motors and electrical switches.
- After studied unit-5, the student will be know the fundamental concepts of electric bulbs, water heater, electric iron box and other home appliances

Course Title: Mechanics

Course Outcomes

- After studied unit-1, student will be able to study the dynamics of rigid bodies in terms of moment of inertia and also able to fine the moment of inertia of different systems.
- After studied unit-2, the students will be able to understand the concept of pressure, laws of flotation and production of low pressure using rotary and diffusion of pump
- After studied unit-3, the student will be able to explain the concept of gravitation and able to know the principles of rocket and satellite.
- After studied unit-4, the student will be able to concepts of lagrangian formulation, transformation equation and D'Alembert's principle.

- After studied unit-5, the students will be able to derive the concepts of Hamiltonian formulation and its applications.

Course Title: Electronics Appliances

Course Outcomes

- After studied unit-1, the student will be able to operate the resistors and capacitors in the electric circuits
- After studied unit-2, the student will be able to draw the waveforms and Lissajoue's figures
- After studied unit-4, the student will be able to plot the Zener voltage regulators in both positive and negative voltages
- After studied unit-5, the student will be able to apply the concepts of transmitters and receivers, different types of antennas in MODEM

Course Title: Optics

Course Outcomes

1. After studied unit-1, the student will be able to know the details of different types of lens
2. After studied unit-2, the student will be able study the Michelson interferometer and the refractive index of gases
3. After studied unit-3, the student will be able to describe Frenel and Fraunhofer's diffraction and the resolving power of the telescope
4. After studied unit-4, the student will be able to know the polarization of crystals, Kerr and Faraday Effect.
5. After studied unit-5, the student will be able to explain and apply the phenomenon of Transmission of electromagnetic waves through fibers

Course Title: Atomic and Spectroscopy

Course Outcomes

1. After studied unit-1, the student will be able to know the properties of cathode rays and positive rays. Also will be able to study the determination of specific charge of an electron.
2. After studied unit-2, the student will be know the different atom models and can get an idea about coupling schemes..
3. After studied unit-3, the student will be able to study the Zeeman effect, Paschen Back effect and Stark effect.
4. After studied unit-4, the student will be able to know the basic idea of photoelectric effect and can able to derive the equation for Einstein's photoelectric equation.
5. After studied unit-5, the student will be able to study the rotational and vibrational energy of a molecule and also learn the Infrared spectra, Raman Effect and Laser.

Course Title: Basic electronics

Course outcome

- After studied unit-1, the student will be to understand the basics of semiconductors, diodes and transistors
- After studied unit-2, the student will be able to describe various rectifiers and amplifiers with its parameters and frequency responses.

- After studied unit-3, the student will be able to explain the various types of oscillators like Hartley, Colpitt's, Wienbridge and its frequency stability.
- After studied unit-4, the student will be able to describe the construction and working of multivibrators, integrating and differentiating circuits
- After studied unit-4, the student will be able to conceptualize the transmission and reception of AM, FM and PM communications.

Course Title: Material science

Course outcome

- After studied unit-1, the student will be able to classify various types of bonds in the materials.
- After studied unit-2, the student will be understood the Gibb's phase rule, phase diagram and mechanism of phase transformations.
- After studied unit-3, the student will able to study the kinetic theory of gases. Also able to analyze various vacuum measuring methods.
- After studied unit-4, the student will be able to gain the knowledge about NDT testing and principle, working of various NDT testing equipments
- After studied unit-4, the student will be able to describe the Piezoelectric, electrostriction and magnetostriction behaviour of materials.

Course Title: Astrophysics

Course outcomes

- After studied unit-1, the student will be able to classify the types of telescopes and its importance in astronomical measurements.
- After studied unit-2, the student will be able to understand the formation of universe through big bang theory. Also know about galaxies and its types.
- After studied unit-3, the student will be able to describe about the different types of stars, black holes, supernovae explosion.
- After studied unit-4, the student will be able to understand the structure of earth and various planets and its importance.
- After studied unit-5, the student will be able explain the astronomical measurements and its unit, celestrial equations.

Course Title: Nuclear Physics and Radiation Physics

Course Outcome

- After studied unit-1, the student will be able learn the liquid drop model and shell model.
- After studied unit-2, the student will be able explain the Geiger Nuttal law and beta decay
- After studied unit-3, the student will be able to describe about synchrotron and GM counter
- After studied unit-4, the student will be able to explain nuclear fission and fusion and the effects of radiation
- After studied unit-5, the student will be able list the types of elementary particles and its properties.

Course Title: Relativity, Quantum Mechanics and Mathematical Physics

Course Outcomes

- To teach the fundamental aspects of relativity and special theory of relativity.
- Ability to understand the concepts of matter waves and to study the properties of wave functions
- Learn to derive the time dependent and independent
- To understand the important concepts of Gauss divergence and curvilinear coordinates
- To learn the special functions and types of differential equations

Course Outcomes

- After studied unit-1, the student will be able to know the frames of references,
    - Michelson Morley experiments, time dilation. And also able to formulate the Lorentz Transformation equations
- After studied unit-2, the student will be understand the matter waves Heisenberg's uncertainty principle and derive the equations of de-Brogile waves.
- After studied unit-3, the student will be able to derive the concepts of time dependent and time independent Schrödinger's equations and its various applications.
- After studied unit-4, the student will be able to know Gauss divergence theorem, green theorem. Also able to derive differential special coordinates like orthogonal, spherical and cylindrical.
- After studied unit-5, the student will be able the beta and gamma functions and various differential equations.

Course Title: Solid State Physics

Course Outcomes

- After studied unit-1, the student will be able to Distinguish between crystalline and amorphous solids, Classify the crystal systems and able to understand the crystal structure
- After studied unit-2, the student will be able to understand the different types of bonding in crystals, apply this to understand the optical , specific heat capacity of solids
- After studied unit-3, the student will be able to Relate the X-ray diffraction with crystal structure and explain the various differences in properties of solids due to crystal imperfections
- After studied unit-4, the student will be able to gain the knowledge of magnetism in materials and able to distinguish different magnetic materials. Also able to understand the phenomena of superconductivity and their applications
- After studied unit-5, the student will be able to explain the electric polarization in dielectric materials and also gain the knowledge in dielectric breakdown mechanisms in a dielectric material.

Course Title: Applied Electronics

Course outcomes

- After studied unit-1, the student will be able understand the parameters, characteristics and importance of FET and UJT

- After studied unit-2, the student will be able to know the operations and parameters of op-amp. Also get the knowledge about AC/DC voltage follower.
- After studied unit-3, the student will be able to apply the applications of op-amp like comparators, Schmitt trigger, Logarithmic amplifiers
- After studied unit-4, the student will be able to analyze the operation and working of 555 timers. Also the students will be able to study the basic principles of analog and Digital phase detector
- After studied unit-5, the student will be able to work out the AD and DC conversion and successive approximation ADC

Course Title: Laser and fiber optic communications

Course outcomes

1. After studied unit-1, the student will be learn the fundamentals of laser, Einstein coefficient, lasing conditions and its levels
2. After studied unit-2, the student will be able to describe operating principles of solids, liquids and gas state laser with examples
3. After studied unit-3, the student will be able to explain the various applications of laser in the field of medicine and industries
4. After studied unit-4, the student will be to know the characteristics, classification of optical fiber, types of optical fiber and its fabrication techniques
5. After studied unit-5, the student will be able to learn the concepts of fiber optic communication, principles of optical detectors.

Course Title: Instrumentation techniques

Course Outcome

1. After studied unit-1, the student will be to know the measurements of Maxwell's inductance bridge, De sauty's bridge.
2. After studied unit-2, the student will be able to study the construction and working of ADC convertors, digital voltmeter, frequency meter and multimeter
3. After studied unit-3, the student will be able to learn the principle, working of CRO, IR, UV, FTIR spectrometer
4. After studied unit-4, the student will be able to demonstrate the principle, working of biomedical equipment's used in our daily life

DEPARTMENT OF COMMERCE

Program Outcomes of M.Com:

Students taking admission for program are required to imbue with following qualities

1. Enriched knowledge with new ideas and techniques essential for business and management.
2. Mastery over specific skills in business.
3. Capability to acquire and handle any position in business.
4. Develop analytical interpretative and presentation skill regarding research in commerce and management.
5. Creating awareness about the modern trends in the management and impact of globalization.

6. Familiarizing with the foundations of individual and group behavior and the concepts of organizational behavior.
7. Deep study of different concepts and methods to measure national income of economy managerial economics helps to understand role and function of central monetary authority in economy.
8. Acquaintance with important accounting standards.
9. Attainment of knowledge of various provisions of income tax act 1961 and its implication in computation of income relating to individual.
10. Training of computation of taxable income of different business entities.
11. Knowledge about the application of accounting techniques for management.
12. Acquaintance the standards cost accounting procedure and techniques. Making capable of decision making at various level of production.

ADVANCED FINANCIAL MANAGEMENT

- Financial Management suited to students wishing to pursue careers as management accountants, management consultants, or those contemplating careers in areas such as investment banking and financial analysis.
- It provides the theoretical framework and skills that accountants and financial managers need to cope with an increasingly complex and global accounting environment.
- Studying financial management at postgraduate level is also popular with people who do not wish to become accountants or work directly in the sector. It is now generally accepted that financial management is an important requirement for managers across all business functions.

ACCOUNTING FOR MANAGERIAL DECISIONS

- Enable the students to know the applications of accounting tools, techniques and concepts in managerial decision making process.
- Provides sound technical knowledge and a broad understanding of the role of accounting and finance in the business world.
- To develop the students skill to analyse the Financial statements

MARKETING MANAGEMENT

- To enhance the understanding of core marketing and marketing segments and targets
- To extent the knowledge of marketing mix and brand equity.
- To facilitate the students to have the deep understanding of marketing channels and value networks and market logistics.

ADVANCED BUSINESS STATISTICS

- To enhance the understanding of multiple correlation and multiple regression
- To expand the knowledge of technique of probability
- To facilitate the students to have the deep understanding on sampling methods, proportion – large and small sample – Z test and T test.

MANAGERIAL ECONOMICS

- This course is intended to provide a basic foundation on the principles of managerial economics and to demonstrate the application of economic theory to business decisions.
- To make the students understand the decision making process of individual consumers and firms.
- To impart conceptual and practical knowledge of managerial economics.

CORPORATE LAWS

- To introduce the concept and importance of business ethics and corporate governance
- To know the facets of ethics management
- To know the ethical values and Indian ethos in Management

HUMAN RESOURCE MANAGEMENT

- This subject provides the platform to the students of management to appreciate the critical managerial functions, processes and tasks of HRM in an organization.
- To become sensitive to the HR Management Processes and to adopt conceptual learning to real-life situations.
- To appreciate the methods and mechanics to bring out the best in people directing their energies towards corporate goals with personal satisfaction.

ADVANCED CORPORATE ACCOUNTING

- To help the students to acquire the conceptual knowledge of the corporate accounting
- To understand the various techniques of preparing the financial statements.

E- COMMERCE

- To gain an understanding of basic concepts, theories and business underlying E-commerce.
- To improve familiarity with current challenges and issues in E- commerce
- To know the concept of Electronic data interchange.

HUMAN RIGHTS

- To understand the basic concepts of hr
- To have an understanding of the relationship between individual, group and national rights

GENERAL SERVICE TAX (GST)

- to equip the students with the knowledge of GST
- to make the students more knowledgeable in the field of GST
- to enable the students to be self employed as tax consultants/ practitioners

ORGANISATION BEHAVIOUR

- To understand and appreciate the fact that why & how of human behaviour in organizations is critical for its success and to orient the managers-to-be to develop people skills to make and run the work-place effective, innovative and stake-holder centric

ADVANCED COST ACCOUNTING

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

SERVICES MARKETING

- To familiarize with the special characteristics of services relevant for marketing
- To analyze the customer satisfaction and complaint management in services
- To evaluate the financial implications of improvement in services,
- To acquaint with CRM application in service marketing.
- To differentiate between product and service businesses and equip for a career in marketing in the service industry.

RESEARCH METHODOLOGY

- To enable the students to know about the information needs of research.
- To introduce the concept of Scientific Research and the methods of conducting Scientific Enquiry.
- To introduce the Statistical Tools of Data Analysis and
- To enable them to conduct a Group Research Study and prepare the report.

DIRECT TAX

- To provide basic knowledge and equip students with application of principles and provisions of Service Tax, VAT, Central Excise, and Customs Laws.

SALES & ADVERTISING MANAGEMENT

- To make the students to understand the Objectives and Functions of Advertising
- To understand and apply concepts and techniques in Personal Selling and Sales Management.
- To understand and apply the dynamics of channel management and the role of out-bound logistics in effective distribution management

INVESTMENT MANAGEMENT

- To familiarize the students with different investment alternatives, introduce them to the framework of their analysis and valuation and highlight the role of investor protection.

B.COM

Program Outcomes of B.Com:

1. Enriched knowledge with new ideas and techniques essential for business and management.
2. Capability to acquire and handle any position in business.

3. Attainment of knowledge of various provisions of income tax act 1961 and its implication in computation of income relating to individual.
4. Training of computation of taxable income of different business entities.
5. Students will demonstrate progressive affective domain development of values the role of accounting in society and business.
6. Learners will acquire the skills like effective communication, decision making, problem solving in day to day business affairs.
7. Learners will be able to prove proficiency with the ability to engage in competitive exams like CA, CS, ICWA and other courses.
8. Learners will be able to do higher education and advance research in the field of commerce and finance.
9. Learners can also acquire practical skills to work as tax consultant, audit assistant and other financial supporting services.

FINANCIAL ACCOUNTING I

- State the uses and users of accounting information;
- Explain and apply accounting concepts, principles and conventions;
- Record basic accounting transactions and prepare annual financial statements; and
- Analyses interpret and communicate the information contained in basic financial statements and explain the limitations of such statements.
- To acquire accounting knowledge of bills of exchange and other business accounting methods

BUSINESS ORGANISATION

- The course aims to provide basic knowledge to the students about the organisation and management of a business enterprise.
- To acquaint the students with the basics of Commerce and Business concepts and functions and Forms of organisation

CONSUMERISM

- This course provides an understanding for the procedure of redressal of consumer complaints, and the role of different agencies in establishing product and service standards.
- The student should be able to comprehend the interface between business firms and consumers and the consumer related regulatory and business environment

FINANCIAL ACCOUNTING II

- The objective of this paper is to help students to acquire conceptual knowledge of the financial accounting and to impart skills for recording various kinds of business transactions
- To understand, analyse and interpret the basic framework of financial reporting.
- To acquire conceptual knowledge of basics of accounting and preparation of final accounts of Sole Trader

OFFICE MANAGEMENT

- To gain knowledge about nature and scope of organisation.

- To gain a knowledge of office equipment and office system.
- To know about office supervisor.

MERCHANT BANKING

- To gain knowledge about merchant banking.
- To import effective knowledge about public issue management.
- To learn about port folio management.

CORPORATE ACCOUNTING I

- To make the student familiar with corporate accounting procedures.
- To impart to the students the expertise in preparation of corporate accounts.

BUSINESS LAWS

- To give an exposure to important commercial laws, the knowledge, that is essential for an understanding of the legal implications of the general activities of a modern business organisation.
- To understand the legal frame work related to contract
- To familiarise about the legal aspects regarding negotiable instruments
- To understand the legal regulations about the company

BANKING THEORY LAW & PRACTICE

- To impart knowledge about the basic principles of the banking.
- To enable the students understand the concepts of Money Market, Capital Market, Stock Market and the recent banking.
- To make the students understand the Human capital effectively utilized for the growth of Indian Economic Development.

BUSINESS ECONOMY - I

- Objective of the course is to acquaint the students with the concepts of micro economics dealing with consumer behaviour and make them understand the supply side of the market through the production and cost behaviour of firms.
- The course aims at providing the student with knowledge of basic concepts of the macro economics. The modern tools of macro-economic analysis are discussed and the policy framework is elaborated, including the open economy.
- To acquaint students with the economics of regulation of domestic and foreign exchange markets.

BUSINESS STATISTICS I

- To help the students understand the concepts such as Correlation, Regression & Time Series.

E-COMMERCE & ITS APPLICATION

- To enable the students to become competent to understand the mechanism for excelling in ecommerce based employments and self-employment opportunities.
- To understand basics concept of E-commerce

- 2. To understand E-Commerce model
- To emphasise Electronic payment system 4. To understand E-Commerce Security and Legal issue

MANAGEMENT CONCEPTS

- To provide conceptual understanding of Management concepts, principles and functions and to facilitate the students how human behaviour in the organization could be managed successfully.

CORPORATE ACCOUNTING II

- To help the students to acquire the conceptual knowledge of the corporate accounting and to understand the various techniques of preparing the financial statements.

COMPANY LAW

- The objective of the course is to impart basic knowledge of the provisions of the Companies Act 2013. Case studies involving issues in company laws are required to be discussed.

BUSINESS COMMUNICATION

- To equip students effectively to acquire skills in reading, writing, comprehension and communication, as also to use electronic media for business communication.

BUSINESS STATISTICS II

- To introduce various optimization techniques of operations research
- To facilitate the use of Quantitative Technique in various functional areas

BUSENESS ECONOMICS II

- To help the students to understand the price determination of goods and services under different market structures.
- To enable the students to understand the concepts of investment, multiplier, accelerator and General Equilibrium.
- To acquire knowledge for application of economic principles and tools in business practices.

INDUSTRIAL ORGANISATION

- It inculcate overall industrial development among the youngsters & how they must go about them with various models suggested by industrial management for further research it develop

TRAINING AND DEVELOPMENT

- To appreciate the significances of training and development
- To introduce the basic concepts in training and development
- To understand the methods of training and development
- To expose the HRD practices in organizations.

COST ACCOUNTING I

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

PRACTICAL AUDITING

- To understand audit theory & its application to the audit of financial statements
- To emphasis the practical application of Audit procedures on realistic financial audit
- To understand the use of internal auditing by top management & governing boards for controlling organisation

BUSINESS MANAGEMENT

- Business Management is an ideal choice for anyone wanting to fast-track their career or learn more about the realities of starting or managing a business
- It is ideal for undergraduates wanting an introduction into business, as well as those wanting to change career paths or improve resumes through by increasing crucial skills
- To acquaint the students with the Principles, functions and practices of management

ENTREPRENEURIAL DEVELOPMENT

- The purpose of the paper is to provide orientation towards entrepreneurship as a career option and encourage creative thinking for effectiveness at work and in life.
- To enable the students to have a thorough knowledge about the Scope of Entrepreneurship in India. Module I Definition and Scope of Entrepreneurship

INCOME TAX LAW & PRACTICES - I

- To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961.
- To make the students understand the canons of taxation.
- To train them to calculate income tax for individuals and corporate
- To make the students to appreciate the tax applications in managerial and financial decision making.

MERCHANT BANKING

- To examine Financial Services management as an important and contemporary area of financial management
- To understand the various financial services and their future and
- To determine the most suitable financial service, given the situations and contingencies

COST ACCOUNTING II

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

MANAGEMENT ACCOUNTING

- To provide the students knowledge about use of costing data for planning, control and decision making.

INCOME TAX LAW & PRACTICES II

- To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961.

FINANCIAL MANAGEMENT

• To know the various sources of finance.
• To understand the various uses for finance.
• To familiarize oneself with the techniques used in financial management.

HUMAN RESOURCE MANAGEMENT

• To understand the evolution of HRD, the functions of HRD, Linkage of HRD with organizational goals and strategies
• To recognize the roles and competencies of HRD professionals
• To understand the frame work of Human Resource Development • To identify the content, outcomes and the process of HRD applications
• To evaluate and understand diversity issues and their impact on organizations and HRD

COMPUTER APPLICATION IN BUSINESS

- Gain familiarity with the concepts and terminology used in the development, implementation and operation of business application systems.
- Explore various methods that Information Technology can be used to support existing businesses and strategies.
- Investigate emerging technology in shaping new processes, strategies and business models.
- Achieve hands-on experience with productivity/application software to enhance business activities.
- Accomplish projects utilizing business theories, Internet resources and computer technology.
- Work with simple design and development tasks for the main types of business information systems

B.COM CA

Program Outcomes of B.Com CA:

1. They can go for higher degree programs in respective subjects as master degree(post Graduate).
2. They can find job opportunities in a variety of environments in university, private and public industries, government departments, business organizations and commercial organizations.
3. Degree holders can also work as programmers, web developers and E-Commerce specialists with industries that build or use computer based systems, such as tele-Communications, automotive etc.,

4. They have jobs in design and development company, computer networking company, software development company etc.,
5. Improve their computer literacy their basic understanding of operative systems and a working knowledge of software commonly used in academic and professional environments.
6. To build a strong foundation of knowledge in different areas of commerce.
7. Students will demonstrate progressive affective domain development of values, the role of accounting in society and business.

FINANCIAL ACCOUNTING I

- State the uses and users of accounting information;
- Explain and apply accounting concepts, principles and conventions;
- Record basic accounting transactions and prepare annual financial statements; and
- Analyses interpret and communicate the information contained in basic financial statements and explain the limitations of such statements.
- To acquire accounting knowledge of bills of exchange and other business accounting method

BUSINESS APPLICATION AND ACCOUNTING SOFTWARE

- To gain familiarity with the concepts and terminology used in the development, implementation & operation of business computer applications
- To achieve hands on experience with the application of software's to enhance business activities
- To demonstrate and to access navigation and customisation of computerised accounting software
- To examine basic accounting process using computerised accounting software
- To prepare financial statement by completing the accounting cycle using computerised accounting software

CONSUMER PROTECTION AND CUSTOMER RIGHTS

- This course provides an understanding for the procedure of redressal of consumer complaints, and the role of different agencies in establishing product and service standards.

- The student should be able to comprehend the interface between business firms and consumers and the consumer related regulatory and business environment

FINANCIAL ACCOUNTING II

- The objective of this paper is to help students to acquire conceptual knowledge of the financial accounting and to impart skills for recording various kinds of business transactions
- To understand, analyse and interpret the basic framework of financial reporting.
- To acquire conceptual knowledge of basics of accounting and preparation of final accounts of Sole Trader

LOGISTICS MANAGEMENT

- Students will be able to identify Logistics courses explore such topics as product distribution, transportation management, supply chain, inventory control, and customer service.
- Professionals pursuing logistics courses often work in freight and goods, warehouse distribution, transportation management, store management, product creation and other goods and services related careers.
- Additionally, due to the increased flow of goods and products globally, many logistics courses are now incorporating business methodologies and international marketing aspects into their courses.
- Logistics relates to the distribution of goods and services from supplier to customer, over a broad range of industries.
- Logistics courses are often taken by those wanting to work in product placement and goods distribution.
- Certification, diploma and degree program options are available through study options that include online, distance learning, and classroom education.

CORPORATE ACCOUNTING I

- To make the student familiar with corporate accounting procedures.
- To impart to the students the expertise in preparation of corporate accounts.

BUSINESS LAWS

- To give an exposure to important commercial laws, the knowledge, that is essential for an understanding of the legal implications of the general activities of a modern business organisation.
- To understand the legal frame work related to contract
- To familiarise about the legal aspects regarding negotiable instruments
- To understand the legal regulations about the company

BANKING THEORY LAW & PRACTICE

- To impart knowledge about the basic principles of the banking.
- To enable the students understand the concepts of Money Market, Capital Market, Stock
- Market and the recent banking.
- To make the students understand the Human capital effectively utilized for the growth of
- Indian Economic Development.

MANAGEMENT INFORMATION SYSTEM

- ❖ To improve the skills of solving very common problems which we come across in various fields like transaction processing systems and industries with system implementation.
- ❖ To develop computational skill and logical thinking in formulating industry oriented problems as a mathematical problem and finding solutions.
- ❖ To incorporate a strong knowledge on databases to students.

MOBILE COMPUTING

- Able to describe the features of mobile network
- Able to design a new mobile networks based on the user's requirements
- Able to understand the various protocols used in the mobile networks
- To enable the student to have a better understanding of WIRELESS NETWORKING and prepare the student for higher level of programming.
- This course aims to provide the students with a detailed knowledge on Mobile Application and Development and covers OS platforms to build mobile applications for smart gadgets.
- Enable the students to get sufficient knowledge on various system resources.
- To equip students to basics of data communication and prepare them for better computer networking.

ELEMENTS OF INSURANCE

- To impart knowledge about the basic principles of insurance

MANAGEMENT CONCEPTS

- To provide conceptual understanding of Management concepts, principles and functions and to facilitate the students how human behaviour in the organization could be managed successfully

CORPORATE ACCOUNTING II

- To help the students to acquire the conceptual knowledge of the corporate accounting and to understand the various techniques of preparing the financial statements.

PRINCIPLES OF MARKETING

- To understand the conceptual foundations of Marketing Management as a functional area of business.
- To understand the application of marketing concepts in making strategic decisions.

RELATIONAL DATABASE MANAGEMENT SYSTEM

- Awareness of database models and knowledge of database technologies
- In a position to understand role of RDBMS in the real life
- Able to apply the concept s for providing the data base solutions
- Able to design an efficient database system
- Able to understand the database activities such as recovery, administration, backup etc.,

E-COMMERCE & ITS APPLICATION

- To enable the students to become competent to understand the mechanism for excelling
- in ecommerce based employments and self-employment opportunities.
- To understand basics concept of E-commerce
- To understand E-Commerce model

- To emphasise Electronic payment system 4. To understand E-Commerce Security and Legal issue

INDUSTRIAL ORGANISATION

- It inculcate overall industrial development among the youngsters & how they must go about them with various models suggested by industrial management for further research it develop

TRAINING AND DEVELOPMENT

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COST ACCOUNTING I

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making
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MANAGEMENT ACCOUNTING

- To provide the students knowledge about use of costing data for planning, controls and decision making.

BUSINESS MANAGEMENT

- Business Management is an ideal choice for anyone wanting to fast-track their career or learn more about the realities of starting or managing a business
- It is ideal for undergraduates wanting an introduction into business, as well as those wanting to change career paths or improve resumes through by increasing crucial skills
- To acquaint the students with the Principles, functions and practices of management

INTERNET & ITS APPLICATION

- Applying the concepts to effectively systemize the network and utilize the technology
- To impart good knowledge of wireless communication to students.
- To prepare the student for better application of intent technology.
- To make the student to become more proficient with system programming.

INCOME TAX LAW & PRACTICES I

- To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961.
- To make the students understand the canons of taxation.
- To train them to calculate income tax for individuals and corporate

- To make the students to appreciate the tax applications in managerial and financial decision making.
- Lectures, numerical problems solving, training on filing tax returns for individuals and corporate

COST ACCOUNTING II

- To acquaint the students with basic concepts used in cost accounting and various methods involved in cost ascertainment systems and use of costing data for planning, control & decision-making

WEB TECHNOLOGY

- Describe the importance of the web technology and its concepts
- Provides the web solution for the practical problems
- Understanding the functioning of WWW
- Create web pages using XML
- To discuss techniques that can be effectively applied in practice about HTML
- To work with OLEDB connection.

INCOME TAX LAW & PRACTICES II

- To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961.

ENTERPRISE RESOURCE PLANNING

- Equipping to make decisions on ERP solution and implementation
- To equip students to basics of computer drawing and prepare them for computer modelling of ERP objects.
- To enable the student to understand various methodology available for HR with ERP.

INDUSTRIAL RELATIONS

- Be acquainted with the concepts, principles and issues connected with trade unions.
- Collective bargaining, workers participation, grievance redressal, and employee discipline and dispute resolution.
- Understand the various processes and procedures of handling Employee Relations.

DEPARTMENT OF CHEMISTRY PG

PAPER –I
SUB: ORGANIC CHEMISTRY

- To make the students learn and understand the concept of stereochemistry, conformational analysis and their application in the determination of reaction mechanism.
- To understand the mechanism of nucleophilic and electrophilic substitution reactions.

PAPER -2
SUB: INORGANIC CHEMISTRY I

- To learn about the inorganic polymers.

- To study the concept of coordination chemistry, stability of the complexes and stereochemistry of complexes.
- To know about the structure and bonding of inorganic compounds.

PAPER-3

SUB: PHYSICAL CHEMISTRY I

- To study the partial molar property, fugacity and its significance.
- Theories and basic concepts of chemical kinetics - mechanism of acid, base and enzyme catalysis reaction.
- To acquire knowledge on phase equilibria of three component system. To study the basics of colloids.

ELECTIVE

PAPER-I

SUB: ADVANCED POLYMER CHEMISTRY

- To gain the knowledge in the preparation, properties, characterization and applications of polymers.

OPEN ELECTIVE

PAPER-I

SUB: B.FOOD CHEMISTRY

- To understand the different sources of food.
- To learn the concept of food poisoning.
- To understand the techniques of food preservation.
- To study the importance of vitamins and uses.
- To apperciate the different minerals needed for dayto day life.

SEMESTER II

PAPER - 4

SUB: ORGANIC CHEMISTRY II

- To understand the nature of carbon-hetero atom multiple bond additions and the mechanism of a chemical reactions.
- To understand the techniques involved in the rearrangements and their synthetic utility.
- To know the methods of synthetic strategies and applications.
- To apply the knowledge of chemical reactions in organic synthesis.

PAPER – 5

SUB: INORGANIC CHEMISTRY II

- To make the students knowledgeable in solid state chemistry.
- To equip the students for their future career in nuclear industry.
- To learn the chemistry of lanthanides, to learn about nanotechnology and use of inorganic compounds in biological chemistry.

PAPER-6

SUB: PHYSICAL CHEMISTRY II

- To understand the behaviour of kinetic reactions and fast reaction.

- To understand the behaviour of electrolytes in solution.
- To know the structure of the electrode surface.
- To differentiate electrode kinetics from other types of kinetic studies.
- To know the applications of electrode process. To study the concept and applications of group theory.

CORE ELECTIVE
PAPER-2
SUB: GREEN CHEMISTRY

- To know the principle and importance of green chemistry.
- To understand the student green chemistry strategies for designing the chemical synthesis.
- To know the solvent free synthesis.
- To make the students knowledgeable ultrasound and microwave assisted green synthesis.

OPEN ELECTIVE
PAPER-2
SUB: A.MEDICINAL CHEMISTRY

- Knowledge of the connection between the structural features of the drugs and their physico-chemical characteristics, mechanism of action and use.
- Application gained knowledge about the therapeutic classes of drugs.
- Counselling and giving information to patients about the drug action.

SEMESTER III
PAPER - 7
SUB: ORGANIC CHEMISTRY III

- To understand the concepts of spectral techniques and to apply these techniques for the quantitative and structural analysis of organic compounds.
- To learn the chemistry of terpenes, alkaloids and free radicals and their importance.

PAPER- 8
SUB: INORGANIC CHEMISTRY III

- To study about the Coordination complexes, Substitution in Coordination complexes and Inorganic Photochemistry.

PAPER-9
SUB: PHYSICAL CHEMISTRY III
SUB CODE: MCH33

- To study the electrochemical kinetics, over potential, corrosions and fuel cells.
- To know the solid state and its properties.
- To Study the principles and applications of spectroscopy.
- To study statistical thermodynamics.

ELECTIVE PAPER-2
SUB: SCIENTIFIC RESEARCH METHODOLOGY

- To study about the importance of research, literature survey, error analysis, statistical treatment.

- To study about the conventions of writing thesis.

PAPER - 10
SUB: ORGANIC CHEMISTRY IV

- To understand the concepts of Aromaticity, Photochemical Reactions, Antibiotics and proteins.
- Applications and Techniques of Dyeing.

PAPER-11
SUB: INORGANIC CHEMISTRY – IV

To study about the Inorganic Spectroscopy and Nuclear Chemistry.

PAPER-12
SUB: PHYSICAL CHEMISTRY-IV

- To study the principles of photochemical reactions.
- To study the Experimental methods and kinetics studies of photochemical reactions.
- To Study of electrode - electrolytic interface.
- To study the fundamental principles of quantum chemistry and its application to chemical bonding, Schrödinger wave equation and its applications.
- To study statistical thermodynamics, quantum statistics and irreversible thermodynamics.

ELECTIVE PAPER- 4
SUB: ENVIRONMENTAL CHEMISTRY

- To understand the concept of different types of pollution.
- To learn the various techniques involved in the analysis of pollutants.
- To know the methods for the control of pollution

DEPARTMENT OF CHEMISTRY UG

SEMESTER I
PAPER – 1
SUB: GENERAL CHEMISTRY – I

- To study Basic concepts regarding Atomic Structure, Periodic Properties, Bonding Concepts.
- To study Ionic Bond, VSEPR and MO Theories, Nomenclature of Organic Compounds, Hybridisation.
- To study Reaction Intermediates, States of Matter, Principle of Volumetric Analysis, Related Problems and Applications.

PAPER – 1
ALLIED
SUB: CHEMISTRY – I

- Basic knowledge on Metallurgy, Cycloalkanes, Polarising Effects, Stereochemistry, Chemical Kinetics, Catalysis, Photochemistry, VSEPR Theory, Fuels, Osmosis, Nuclear Chemistry, Petroleum Chemistry, Chemistry

of Naphthalene, Conductors and Applications wherever necessary are to be taught.

PAPER – 1
SUB: PROFESSIONAL ENGLISH – I

- To enhance the lexical, grammatical and socio-linguistic and communicative competence of first year physical sciences students
- To focus on developing students' knowledge of domain specific registers and the required language skills.
- To develop strategic competence that will help in efficient communication
- To sharpen students' critical thinking skills and make students culturally aware of the target situation.

SEMESTER II
PAPER – 2
SUB: GENERAL CHEMISTRY – II

- Basic knowledge on s- and p- Block Elements, Group Study.
- Hydrocarbons, Cycloalkanes, Dienes,
- Quantum Chemistry, Thermochemistry, First Law of Thermodynamics, Derivation of Equations, Related Problems, Reaction Mechanism and Applications.

PAPER – 2
ALLIED
SUB: CHEMISTRY – II

- Basic knowledge on Coordination Chemistry, Industrial Chemistry, Carbohydrates, Aminoacids, Proteins, Electrochemistry, Paints and Pigments, dyes, Vitamins, Medicinal Chemistry, Corrosion and Applications wherever necessary are to be taught.

PAPER – 1
SUB: PROFESSIONAL ENGLISH – II

- Develop their competence in the use of English with particular reference to the workplace situation.
- Enhance the creativity of the students, which will enable them to think of innovative ways to solve issues in the workplace.
- Develop their competence and competitiveness and thereby improve their employability skills.
- Help students with a research bent of mind develop their skills in writing reports and research proposals.

SEMESTER – III
PAPER – 3
SUB: GENERAL CHEMISTRY – III

- To study Basic concepts regarding the Principles of Inorganic Analysis and Applications of Qualitative Analysis.

- To study Types of Solvents, p- Block Elements, Group Study, Aromaticity, Electrophilic and Nucleophilic Substitution Reactions, Elimination Reactions, Reaction Mechanism.
- To study Second Law of Thermodynamics, Derivation of Equations, Related Problems and Applications

SKILL BASED SUBJECT
PAPER – 1
SUB: WATER TREATMENT AND ANALYSIS

- To impart knowledge about the various methods of Water Analysis and Treatment of Water.

NON MAJOR ELECTIVE
PAPER – 1
SUB: MEDICINAL CHEMISTRY

- To learn the basic idea of Drugs and Names of Common Drugs, Blood, Blood Pressure, Diabetes, AIDS, Vitamins, Indian Medicinal Plants and First Aid.

PAPER – 4
SUB: GENERAL CHEMISTRY – IV

- To study Noble gases, Carboxylic Acids, Amines, Alcohols, Phenols, Naphthols, Important Name Reactions, Mechanism.
- To study Thermodynamics, Derivation of Equations, Partial Molar Properties, Chemical Potential, Related Problems and Applications.

SKILL BASED SUBJECT
PAPER – 2
SUB: FOOD CHEMISTRY

- To impart knowledge about Different Foods, Their Nutritive Values and Food Preservation.

NON MAJOR ELECTIVE
PAPER – 2
SUB: CHEMISTRY IN EVERYDAY LIFE

- To know the basics of chemistry in our life.
- To know about the Food Colours, Plastics, Drugs, etc.,

PAPER – 5
SUB: INORGANIC CHEMISTRY – I

- To study about the Halogens and Related compounds.
- To give students a firm grounding in Co-ordination chemistry and Solid state Chemistry

PAPER – 6
SUB: ORGANIC CHEMISTRY – I

- To effectively impart knowledge about Carbohydrates, Stereochemistry, Conformational Analysis, Nitroalkanes and Heterocyclic chemistry.

- To make the students more inquisitive in learning the Mechanistic details in Organic¬ Chemistry through the teaching of the named reactions.

PAPER- 7
SUB: PHYSICAL CHEMISTRY – I

- To impart knowledge about the Solutions, Phase Rule and its Applications,
- To study Colligative properties, Chemical Equilibrium, Phase Rule and its Applications, Electrochemistry and its Applications.

ELECTIVE
PAPER – 1
SUB: ANALYTICAL CHEMISTRY – 1

- To impart knowledge about Data Analysis, Purification of organic compounds, Different Spectroscopic Techniques and their Application.

ELECTIVE
PAPER – 2
SUB: PHARMACEUTICAL CHEMISTRY

- To effectively impart knowledge about Various Diseases and Their Treatment, Importance of Indian Medicinal Plants and Different Types of Drugs.
- Preparation, Synthesis and Structural Determination are not required for the Compounds mentioned.

SKILL BASED SUBJECT
PAPER – 3
SUB: APPLIED CHEMISTRY

- To impart Knowledge about Petrochemicals, Paper Technology, Sugar Industry, Explosives, Photography and Diary Chemistry.

SEMESTER – VI
PAPER – 8
SUB: INORGANIC CHEMISTRY – II

- To impart knowledge about Nuclear chemistry, Radioactivity, Metallurgy, Chemistry of f- Block Elements, Organometallic Compounds and Bio-inorganic Chemistry.

PAPER – 9
SUB: ORGANIC CHEMISTRY – II

- To kindle interest in students in learning Bio-organic chemistry through the introduction of topics such as Proteins, Nucleic acids, Terpenes, Alkaloids etc.
- To generate Keen Interest and Thinking in Understanding the Mechanisms of¬ Molecular Rearrangements and Synthetic Applications of Acetoacetic Ester, Benzene Diazonium Chloride, Grignard Reagents and Diazomethane.

PAPER- 10
SUB: PHYSICAL CHEMISTRY – II

- To impart Knowledge about Electrochemistry, Surface Chemistry, Photochemistry, Chemical Kinetics and Theories of reaction rates.

ELECTIVE PAPER – 3
SUB: ANALYTICAL CHEMISTRY – II

- To impart knowledge about Different Chromatographic and Spectroscopic Techniques.

SKILL BASED SUBJECT
PAPER – 4
SUB: AGRICULTURE AND LEATHER CHEMISTRY

- To learn about Soil fertility and Productivity, Soil Chemistry, Insecticides, Leather Industry and Treatment of Tannery Effluents.

B.Sc. COMPUTER SCIENCE
CBCS PATTERN

(With effect from 2020-2021)
Program Outcome

B.sc., & M.Sc., Computer Science degree holders possess the knowledge of

- New ideas and principles that have broad application to the field of Computer science.
- Understand the basic concepts of software systems used in various domains.
- Acquire the knowledge of software development fundamentals including data structures, algorithms & programming.
- System fundamentals including various operating systems, networking &communication architectures &organization parallel & districted computing and security.
- Understand the mathematics fundamentals including discrete structures, statistics & calculus.
- Reveal the concept of software engineering fundamentals such as software analysis & design, evolution & testing & various software engineering processes.
- Understand the information management concepts and its applications.

❖ **SKILLS**

B.sc., & M.Sc., Computer science degree holders can apply the methods & procedures as follows:

- Ability to apply the knowledge in mathematics, scientific projects & experiments to solve many problems.
- Realize the possibility of multiple solutions to a given problems & have impact on real time applications.
- Apply the knowledge they have gained through project experience.
- Ability to use programming languages in various application domains.

COURSE OUTCOME – Programming in C
After the successful completion of this course, students will be able to

- Understand the basics of C programming
- Write, compile and debug programs in C language.
- Use different data types in a computer program.
- Design programs involving decision structures, loops and functions with call by value and call by reference
- Illustrates the use of pointers and Structures.
- To perform basic operations like create/update on basic data files.

COURSE outcome - Environmental studies

Creating awareness among the students about the importance of environment, the effect of technology on the environment and ecological balance is the important aim of the course.

After the successful completion of this course, students will be able

- Awareness about the importance of environmental studies and methods of conservation of natural resources.
- Explains the structure and function of an ecosystem.
- Identify the values and conservation of bio-diversity.
- Demonstrates the causes, effects and control measures of various types of pollutions.
- Select the appropriate methods for waste management.
- Acquire the knowledge about various disaster management methods

COURSE OUTCOME: C++ & Data structure
This course is designed to provide more knowledge about C++ & Data structures.

- This emphasizes more about C++, which provide students a clear understanding of object-oriented concepts & its programming through C++. Also, it explains various data structures & operations performed using algorithm and examples.

COURSE OUTCOME: C++
After the successful completion of this course, students will be able to

- Acquire the basic knowledge on Object Oriented concepts.
- Build applications using Object Oriented Programming Concepts.
- Demonstrate the differences between traditional imperative designs and object oriented design.
- Elaborate class structures as fundamental, modular building blocks.
- Understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code.
- Write small/medium scale C++ programs with simple graphical user interface.
- Understand the file handling and error handling mechanisms in C++.
- Get knowledge to use strings and Streams in C++.
-

COURSE OUTCOME: Data structure

After the successful completion of this course, students will be able to

- Demonstrate various data structures & its operations using algorithms.
- Demonstrate understanding of the abstract properties of various data structures such as stacks, queues, lists, trees and graphs and Use various data structures effectively in application programs.
- Demonstrate understanding of various sorting algorithms, including bubble sort, insertion sort, selection sort, heap sort and quick sort.
- Illustrates the various applications of data structures like infix to postfix conversion.
- Demonstrates more about linked lists, doubly linked lists & its operations.
  Understand and apply fundamental algorithmic problems including Tree traversals, Graph traversals, and shortest paths.
- Gain knowledge about Hashing and Collisions and B- Trees.

COURSE OUTCOME: C++ & Data structure lab

This course is designed to provide a practical knowledge of how to write, compile and debug programs in C++ language. It is also used to solve problems and implement data structure algorithms in C++.

After the successful completion of this lab Course, students will be able to

- Build applications using Object Oriented Programming Concepts
- Acquire knowledge about the basic concept of writing a C++ program.
- Understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code
- Get practical knowledge about the application of data structures
- Implement linked list data structure to solve various problems.
- Apply graph and tree traverse technique to various applications.
- Understand and apply various data structure such as stacks, queues, trees and graphs to solve various computing problems using C++-programming language.
- Various sorting techniques can be implemented using C++ programs.

COURSE OUTCOME: Value Education

This course is designed to provide moral values to the students. It also inculcate

After the successful completion of this lab Course, students will be able to

- Explains the concept of human values
- Explains about the Components, structure & responsibility of family
- Reveals about status of women in society
- Reveals about ethics on family & society
- Demonstrates about psychology of children and youth
- Explains personality development & leadership qualities
- Demonstrates about social values & its awareness
- Explains about environmental issues

COURSE OUTCOME: Programming In Java

- Knowing about a General-purpose and Purely object-oriented programming language including data types, control statements, and

classes
- Secured, well-suited for internet programming using applets and GUI-based
- Students are able to know about a General-purpose and Purely object-oriented programming language including data types, control statements, and classes
- Students are able to Secured, well-suited for internet programming using applets and GUI-based

COURSE OUTCOME: Digital Logic Design and Computer Organization

This course aims to provide the students with a detailed knowledge on digital logic, internals of the System logic circuits and to know the working principles of the computers.

COURSE OUTCOME: Introduction to Information Technology

- Students understand Major components of Computer System and its working principles.
- Students learn and understand the Role of an Operating System and basic terminologies of networks.
- Students understand how the Information Technology aids for the Current Scenario.
- Students understand the Computer Software.
- Students understand internet applications

COURSE OUTCOME: Relational Database Management Systems

- Describe the database architecture and its applications Sketch the ER diagram for real world applications Uses various ER diagram for a similar concepts from various sources.
- Discuss about the relational algebra and calculus Construct various queries in SQL and PL/SQL Compiles various queries in SQL, Relational Calculus and Algebra.
- Describe the various normalization forms Apply the normalization concepts for a table of data Practices a table and implement the normalization concepts.
- Explain the storage and accessing of data.
- Illustrate the query processing in database management. Define the concurrency control and deadlock concept

COURSE OUTCOME: Relational Database Management Systems Labs

- Design and Implement a database schema for a given problem domain.
- Populate and Query a database using SQL DDL/DML Commands.
- Build well formed in String Date/Aggregate Functions.
- Design and Implement a database query using Joins, Sub-Queries and Set Operations.
- Program in SQL including Objects (Functions, Procedures, Triggers)

COURSE OUTCOME: Wireless Data Communication

- To understand the concepts of basic OSI layers.
- To understand the concepts of signals and transmission media.
- To understand the basic concepts of error detection and DLC
- To understand the Characterize of wireless transmission technologies
- To understand the concepts of Security.

COURSE OUTCOME: Internet Technology

- Students understand the Fundamentals of Internet, Connectivity and its Resource Requirements.
- Students understand the Internet Technology and its applications
- Students understand the basis of WWW and Web Browsers.
- Students learn how to Mailing system and applications of Internet.
- Students Understand relay chat that is how to read e- contents.

COURSE OUTCOME: Mobile Applications Development

This course aims to provide the students with a detailed knowledge on Mobile Application Development and Deployment about Android programming from basics to building mobile applications for digital world.

- Evaluate the architecture and principles of operation of computer systems and Determine solutions using problem solving principles, logic and systematic methodologies.
- Synthesize principles and theories of computer science and software engineering for application to different computing paradigms.
- Design and develop software systems for various application domains.
- Design and develop secure enterprise-grade information systems.
- Manage the development of software systems through a variety of development processes and methodologies.
- Design effective user interfaces using human computer interaction principles.
- Synthesize new knowledge in the field of computer science by using appropriate research methodologies.
-

COURSE OUTCOME: Operating System

Enable the student to get sufficient knowledge on concepts, functions and various system resources of operating systems.

- Demonstrates different types of modern operating systems and their structure of implementation and applications.
- Understand the difference between process & thread, issues of scheduling of user level processes / threads and their issues & use of locks, CPU scheduling and multithreaded systems.
- Gain knowledge about the concepts of deadlock in operating systems and how they can be managed / avoided and implement them in multiprogramming system.
- Demonstrate the design and management concepts along with issues and challenges of main memory, virtual memory and file system.
- Understand the types of I/O management, disk scheduling, protection and security problems faced by operating systems and how to minimize these problems.
- Illustrates the case study of UNIX operating system.

COURSE OUTCOME: Design and Analysis Of Algorithms

- The objective of the course is to teach techniques for effective problem solving in computing.
- The use of different paradigms of problem solving will be used to illustrate clever and efficient ways to solve a given problem.
- In each case emphasis will be placed on rigorously proving correctness of the algorithm.

COURSE OUTCOME: Data Mining

To enable the students to understand the importance of Data Mining and its techniques with recent trends and tools.

- Understand the data extraction and transformation techniques.
- List the association rule mining techniques and understand association mining to correlation analysis, constraint based association mining.
- Understand operational database, warehousing and multidimensional need of data base to meet industrial needs.
- Understand the components of warehousing, classification methods and clustering analysis.
- Identify and understand the Business analysis, query tools and application, OLAP etc.

COURSE OUTCOME: Information Security

To enable the student to understand various methodologies available for securing information.

- The basic concepts of Information Security
- The legal, ethical and professional issues in Information
- To know about risk management
- To understand the technological aspects of Information Security
- To understand the concepts of Cryptography and Hacking methods

COURSE OUTCOME: Software Testing

To study the concepts of software engineering with the aim of acquiring skills to develop Software applications, following all standardized procedures and techniques.

- To understand the concept of software testing, and software quality
- To learn to inspect and detect errors by going through each and every code segment
- To gain knowledge of various functional and structural testing techniques
- To understand basic concept of Software Management tools and object oriented testing
- To understand basic concept of Software quality and software quality assurance

COURSE OUTCOME : Software Engineering

This course is intended to provide the students with an overall view over Software Engineering discipline and with insight into the processes of software development.

- Introduces the concepts and methods required for the construction of large software intensive systems.
- Gets the idea of choosing the Requirements in Software Engineering.

- Gives an understanding the concept of Data Engineering.
- To impart knowledge on Testing and Debugging.
- To enable the students to learn the basic of Project Management & Scheduling.

COURSE OUTCOME : Open Source Software

To study the concepts of open source techniques that can be effectively applied in practice about HTML5, JavaScript, PHP, and PERL.

- To understand the concept of HTML, HTML5 and CSS.
- To learn to inspect and detect errors by going through each and every code segment.
- To understand basic concept of Java Script and MySQL.
- To understand basic concept of PHP
- To understand basic concept of PER

COURSE OUTCOME : Python Programming

- Students are able to explore the fundamental concepts of Python
- Students are able to understand Basics of Python programming language
- Students are able to solve simple problems using Python
- Students are able to acquire fundamental knowledge and skills on Python Programming
- Students are able to understand the nuances of this language.
- Students are able to know the usage of modules and packages in Python
- Students are able to familiarize with file concepts in Python
- Students are able to familiarize with web concepts using Python.

COURSE OUTCOME : Big Data Analytics

- To explore the fundamental concepts of big data analytics.
- To learn to analyze the big data using intelligent techniques and mining data stream.
- To understand the applications using Map Reduce Concepts.
- To explore the fundamental concepts of big data analytics.
- To learn to use various techniques for mining data stream.
- To learn the Big data Business Perspective
- To understand the applications using Map Reduce Concepts.

COURSE OUTCOME : Cryptography

- Understand various Security practices and System security standards
- Understand different cryptographic operations
- Understand the various Authentication schemes to simulate different applications.

- Understand OSI security architecture and classical encryption techniques**.**
- Understand the different cryptographic operations of symmetric cryptographic algorithm**s.**

- Understand the different cryptographic operations of Public key cryptographic algorithms.

- To make use of application protocols to design and manage a secure system.
- To learn the configuration and manage E–mail and WLAN Security.

COURSE OUTCOME : Digital image processing

This course enables the student knowledge about various image processing concepts like enhancement, restoration, segmentation, compression and recognition.

- To know the basics of Digital image and techniques.
- To understand various Image enhancement ideas.
- To understand Image restoration techniques.
- To understand degrees of image resolution and compression methods.
- To understand concepts of image representation and recognition.

COURSE OUTCOME : Artificial intelligence

To induce the innovative ideas of students, related to Robotics, Artificial Intelligence and Machine Learning. This course enables the student's level to compete in the world of information and technology era.

- To know the basics of Artificial Intelligence.
- To Understand the Methods and algorithms in AI.
- To learn to represent knowledge in solving AI problems.
- To Understand Statistical logics and know about Software agents.
- To learn how Machine learning is related to AI.

COURSE OUTCOME : System software

To have an understanding the basic design of assemblers, loaders, linkers, macro processor.

- To understand the basic concepts of system software
- Ability to trace the path of a source code to object code and to executable file
- To design and implementation of loaders and linkers
- To understand the concepts of macro processor
- Ability to analyze the functions of compilers

COURSE OUTCOME: Cloud computing

- To enable the students to learn the basic functions, principles and concepts of cloud computing Systems.
- To understand the concepts in Cloud Computing.
- To understand the concepts of Cloud Computing Services.
- To enable the Students to learn Programming Models in Cloud Computing and its Environments.
- The student should be made to learn the basics of Software Development in Cloud.
- At the end of the course, the student should be able to learn Security Aspects of Cloud Computing.

COURSE OUTCOME: Internet of things

This course presents the Introduction to IoT, M2M, IoT Architecture, IoT Model and Views, IOT protocols and Real world design constraints enable the students to learn the concepts of IoT.

- To understand the fundamentals of Internet of Things.
- To understand the M2M and IoT Architecture
- To understand the IoT Model And Views
- To learn about the basics of IOT protocols.
- Analyze applications of IoT in real time.

MASTER OF COMPUTER SCIENCE
(CBCS PATTERN)
(With effect from 2020 - 2021)

COURSE OUTCOMES: Relational Database Management System

- Students are able to have a broad understanding of database concepts and database management system software
- Students are able to have a high-level understanding of major DBMS components and their function
- Students are able to model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model.
- Students are able to write SQL commands to create tables and indexes, insert/update/delete data, and query data in a relational DBMS.
- Students are able to program a data-intensive application using DBMS APIs.

COURSE OUTCOMES : Enterprise Java Programming

- Students are able to develop Applet Programming using various techniques
- Students are able to develop applications using Abstract Window Toolkit and Events
- Students are able to update and retrieve the data from the databases using JDBCODBC
- Students are able to develop server side programs in the form of Servlets
- Students are able to build up Java Applications using collections and JSP Tags.

COURSE OUTCOMES: Programming Using C#.Net

- Students are able to know the differences between desktop application and web application Students are able to construct classes, methods, and access modifier and instantiate objects.
- Students are able to create and manipulate GUI components in C# for windows application.
- Students are able to code solutions and compile C# projects within the .NET framework.
- Students are able to build the desktop application with Database

COURSE OUTCOMES: Computer Organization

- Students are able to identify the types of instructions and the organization of registers and memory
- Students are able to describe the translation model of assembly language to machine language.
- Students are able to understand the micro-program by mapping the instructions.
- Students are able to recognize the types of computer organizations.
- Students are able to accept the better way of processing by Parallel and Vector processing.

COURSE OUTCOMES: Parallel Computing

- Students are able to compute speedup, efficiency, and scaled speedup of parallel computations, given appropriate data
- Students are able to apply Amdahl's Law to predict the maximum speedup achievable from a parallel version of a sequential program, given its execution profile
- Students are able to analyze the efficiency of a parallel algorithm
- Students are able to explain the relative advantages and disadvantages of mesh, hypercube, and butterfly networks with respect to diameter, bisection width, and number of edges/node
- Students are able to explain the advantages and disadvantages of constructing parallel computers using

COURSE OUTCOMES: Embedded System

- Students are able to understand basic concepts in the embedded computing systems area;
- Students are able to determine the optimal composition and characteristics of an embedded system;
- Students are able to understand what is a microcontroller, microcomputer, embedded system
- Students are able to design and program an embedded system at the basic level;
- Students are able to develop hardware-software complex with the use of the National Instruments products.

COURSE OUTCOMES: Advanced Enterprise Java Programming

- Students are able to work with JSP, JSF and Servlet using MVC approach.
- Students are able to develop the web applications using the MVC framework provided by Apache Struts
- Students are able to develop Enterprise web application using EJB.
- Students are able to implement the Object-Relation Mapping technique using Hibernate
- Students are able to gets knowledge of Aspect Oriented Programming using Spring and Spring MVC.

COURSE OUTCOMES: Design and Analysis of Algorithms

- Students are able to prove the correctness and analyze the running time of the basic algorithms for those classic problems.
- Students are able to understand the basic knowledge of algorithm design and its implementation.
- Students are able to learn the key techniques of Divide-and-Conquer and Greedy Method.
- Students are able to recognize the concept of Dynamic Programming and its algorithms
- Students are able to familiarize with Backtracking algorithms.
- Students are able to understand Branch and Bound techniques for designing and analyzing algorithms.

COURSE OUTCOMES: Web Application Using C#.Net

- Students are able to know the differences between desktop application and web application.
- Students are able to construct classes, methods, and access modifier and instantiate objects.
- Students are able to create and manipulate GUI components in C# for windows application.
- Students are able to code solutions and compile C# projects within the .NET framework.
- Students are able to build the desktop application with Database.

COURSE OUTCOMES: Human Computer Interaction

- Students are able to plan and Develop procedures and life cycle of Human Computer Interaction
- Students are able to analyze product usage through appropriate assessments and testing techniques.
- Students are able to apply the interface structure standards/rules for different users.
- Students are able to encourage communication between understudies of brain science, structure, and software engineering on UI improvement projects.
- Students are able to understand the intensity of HCI in the cutting edge world and the job it can play in advancing value, openness, and progress.

COURSE OUTCOMES: Social Information Networks

- Students are able to clear understanding of real world applications
- Students are able to comprehend the elements of the social network
- Students are able to demonstrate and envision the social network
- Students are able to understand the role of web in the social network
- Students are able to apply the concept of social network in appropriate application

COURSE OUTCOMES: Cloud Computing

- Students are able to understand the broad perceptive of cloud architecture and model.
- Students are able to understand the concept of parallel and distributed computing
- Students are able to understand the different technologies.
- Students are able to understand the features of virtualization.
- Students are able to learn to design the trusted cloud computing system with different cloud platforms

COURSE OUTCOMES: Distributed Operating System

- Students are able to understand foundations of Distributed Systems.
- Students are able to get the idea of memory management
- Students are able to comprehend in detail the system level and support required for distributed system.
- Students are able to recognize the shell script commands of Unix

COURSE OUTCOMES: **Xml and Web Services**

- Students are able to understand the use of web services in B2C and B2B applications.
- Students are able to understand the design principles and application of SOAP and REST based web services.
- Students are able to design collaborating web services according to a specification.
- Students are able to implement an application that uses multiple web services in a realistic business scenario.

COURSE OUTCOMES: **Programming Using Python**

- Students are able to explore the fundamental concepts of Python
- Students are able to understand Basics of Python programming language
- Students are able to solve simple problems using Python
- Students are able to acquire fundamental knowledge and skills on Python Programming
- Students are able to understand the nuances of this language.
- Students are able to know the usage of modules and packages in Python
- Students are able to familiarize with file concepts in Python
- Students are able to familiarize with web concepts using Python.

COURSE OUTCOMES: **Block chain Technology**

- Students are able to understand the functions of Block chains
- Students are able to have clarity in the Concepts, challenges, solutions with respect to block chain
- Students are able to understand the facts and myths related to crypto currencies.
- Students are able to apply the concept of Block chain for various applications.
- Students are able to correlate Current Indian scenario in governing crypto currencies in India with Global standard.

COURSE OUTCOMES: Internet of Things

- Students are able to design and develop IOT based solution for real world applications
- Students are able to realize the evolution of Internet in Mobile Devices, Cloud & Sensor Networks
- Students are able to understand the building blocks of Internet of Things and its characteristics.
- Students are able to understand the concept of IOT and its application.

COURSE OUTCOMES: **Network Security**

- Students are able to identify some of the driving factors needed for network security
- Students are able to Identify and classify attacks and threats
- Students are able to compare and contrast symmetric and asymmetric encryption systems.
- Students are able to identify the web systems vulnerable to attack.
- Students are able to use appropriate secure mail applications and security protocols

COURSE OUTCOMES: **Programming Using C**

- Students are able to understand a functional hierarchical code organization.
- Students are able to define and manage data structures based on problem subject domain.
- Students are able to work with textual information, characters and strings.
- Students are able to work with arrays, structures, pointers and files.

COURSE OUTCOMES: **Programming Using C++**

- Students are able to understand object oriented programming and advanced C++ concepts.
- Students are able to understand the various functions and arguments in object oriented programming.
- Students are able to understand the classes and objects in C++.
- Students are able to familiarize with inheritance and polymorphisms.
- Students are able to understand the concepts files and exception handling.

COURSE OUTCOMES: **Programming Using Python**

Students are able to explore the fundamental concepts of Python

- Students are able to understand Basics of Python programming language
- Students are able to solve simple problems using Python
- Students are able to acquire fundamental knowledge and skills on Python Programming
- Students are able to understand the nuances of this language.
- Students are able to know the usage of modules and packages in Python
- Students are able to familiarize with file concepts in Python
- Students are able to familiarize with web concepts using Python.

COURSE OUTCOMES: **Mobile Application Development**

- Students are able to know about the mobile application development environment
- Students are able to develop interface and design
- Students are able to use the techniques in Mobile Applications

COURSE OUTCOMES: **Software Project Management**

- Students are able to understand the activities during the project scheduling of any software application.
- Students are able to learn the risk management activities and the resource allocation for the projects.
- Students are able to apply the software estimation and recent quality standards for evaluation of the software Projects.
- Students are able to acquire knowledge and skills needed for the construction of highly reliable software project.
- Students are able to able to create reliable, replicable cost estimation that links to the requirements of project planning and managing.

COURSE OUTCOMES: **Big Data Analysis**

Students are able to learn about types of digital data and big data

- Students are able to gain knowledge of various Big data analytics and its Technologies
- Students are able to study about various NoSQL databases and management techniques
- Students are able to work with NoSQL databases such as MongoDB and Cassandra
- Students are able to design big data queries using Hive and Pig.

COURSE OUTCOMES: **Artificial Intelligence**

- Students are able to understand the various searching techniques, constraint satisfaction problem and example problems- game playing techniques.
- Students are able to apply these techniques in applications which involve perception, reasoning and learning.
- Students are able to explain the role of agents and how it is related to environment and the way of evaluating it and how agents can act by establishing goals.
- Students are able to acquire the knowledge of real world Knowledge representation.
- Students are able to analyze and design a real world problem for implementation and understand the dynamic behavior of a system.
- Students are able to use different machine learning techniques to design AI machine and enveloping applications for real world problems

COURSE OUTCOMES: **Machine Learning**

- Students are able to design and implement machine learning solutions to classification, regression, and clustering problems;
- Students are able to evaluate and interpret the results of the algorithms.

- Students are able to select and implement machine learning techniques and computing environment that are suitable for the applications under consideration.
- Students are able to solve problems associated with batch learning and online learning, and the big data characteristics such as high dimensionality, dynamically growing data and in particular scalability issues.
- Students are able to understand and apply scaling up machine learning techniques and associated computing techniques and technologies.
- Students are able to recognize and implement various ways of selecting suitable model parameters for different machine learning techniques.

COURSE OUTCOMES: Cyber Security

- Students are able to understand the cyber threats and their Impact
- Students are able to have an awareness towards cybercrimes and legal impact against them
- Students are able to avoid becoming a Victim to cyber threats
- Students are able to assess risks and weakness in security policies
- Students are able to respond to security alerts and identify flaws in systems and networks

COURSE OUTCOMES: **Decision Support System**

- Students are able to recognize the relationship between business information needs and decision making
- Students are able to appraise the general nature and range of decision support systems
- Students are able to appraise issues related to the development of DSS
- Students are able to select appropriate modeling techniques
- Students are able to analyze, design and implement a DSS

COURSE OUTCOMES: **Research Methods and Ethics**

- Students are able to demonstrate knowledge of research processes (reading, evaluating, and developing);
- Students are able to perform literature reviews using print and online databases;
- Students are able to identify, explain, compare, and prepare the key elements of a research proposal/report;
- Students are able to compare and contrast quantitative and qualitative research

Department of Business Administration

Course Outcome 2020-2021

Principles of Management (CBA11)

- Discuss and communicate the management evolution and how it will affect future manage
- Observe and evaluate the influence of historical forces on the current practice of management.

- Identify and evaluate social responsibility and ethical issues involved in business situations and logically articulate own position on such issues.
- Explain how organizations adapt to an uncertain environment and identify techniques managers use to influence and control the internal environment.
- Practice the process of management's four functions:
- planning,
- Organizing,
- leading, and
- Controlling.
- Identify and properly use vocabularies within the field of management to articulate one's own position on a specific management issue and communicate effectively with varied audiences.
- Evaluate leadership styles to anticipate the consequences of each leadership style.
- Gather and analyze both qualitative and quantitative information to isolate issues and formulate best control methods

Business Mathematics and Statistics I &II (CBA12 & CBA22)

- Construct proofs using techniques from logic such as proof by contradiction and/or specific techniques such as the principle of induction.
- Analyze and check correctness of mathematical arguments, and read mathematical text independently.
- Apply an advanced abstract mathematical idea to a concrete real-world problem (e.g., application of differential equations, or linear programming, or RSA or error correction codes).
- Write effectively using language appropriate for mathematical discourse.
- Use calculus to analyze and evaluate properties of real valued functions.
- Interact effectively with fellow students and colleagues.
- Successfully complete four advanced courses in four different areas of mathematics, establishing breadth required for careers in fields such as teaching and industrial applications.

Business Organizations (CABA13A)

- All business entities are not the same. Some provide owners a lot of flexibility in management and control and some do not.
- Some provide owners a significant degree of protection from liability and some do not. And some are heavily regulated, and some are not.
- On top of these differences is the fact that our tax code provides different tax treatments for different business entities.
- All of these factors should be considered when an entrepreneur is selecting the type of business entity she or he wishes to use for her or his business.
- Let’s take a look at the primary choices an entrepreneur has by breaking them down into two broad categories.

- First, we'll take a look at unlimited liability entities, or those business organizations that don't provide the owner or owners any protection from personal liability, such as sole proprietorships and general partnerships.
- Then, we'll examine limited liability entities, which are business organizations that usually limit an owner's liability to his or her investment in the business, such as corporations, limited liability companies, and limited partnerships.

Professional English I&II (CPE10B & CPE20B)

- Students will be enabled to understand the basic objective of the course by being acquainted with specific dimensions of communication skills i.e. Reading, Writing, Listening, Thinking and Speaking.
- Students would be able to create substantial base by the formation of strong professional vocabulary for its application at different platforms and through numerous modes as Comprehension, reading, writing and speaking etc.
- Students will apply it at their work place for writing purposes such as Presentation/official drafting/administrative communication and use it for document/project/report/research paper writing.
- Students will be made to evaluate the correct & error-free writing by being well-versed in rules of English grammar & cultivate relevant technical style of communication & presentation at their work place & also for academic uses.
- Students will apply it for practical and oral presentation purposes by being honed up in presentation skills and voice-dynamics.
- They will apply techniques for developing inter-personal communication skills and positive attitude leading to their professional competence.

Business Environment (CBA21)

- To provide knowledge of the environment in which businesses operate, the economic operational and financial framework with particular application to the transaction of insurance business.
- Learning Outcomes:
- At the end of the course, student should be able to:
- Discuss the supply and demand theory and its impact on insurance.
    - Explain the effects of government policy on the economic environment and
    - Insurance industry.
    - Outline how an entity operates in a business environment.
- Describe how financial information is utilized in business.
- Explain the legal framework that regulates the insurance industry

Customer Relationship Management (CABA23A)

- Develop understanding about customer relationship management concepts and frameworks and how these are applied to form relationships with customers and other internal and external stakeholders.

- Develop skills to analyse and synthesise information and issues, related to customer relationship management, from several perspectives.
- Enhance business communication skills required to work effectively within a marketing team.
- Student Learning Outcomes By the end of the course,
- Analyse relationship theory and relationship economics from the point of view of the customer and the organisation.
- critically analyse an organisation's relational strategies with stakeholder groups that affect how well it meets customer needs
- evaluate CRM implementation strategies
- Formulate and assess strategic, operational and tactical CRM decisions.
- Plan and conduct an investigation on an aspect of CRM, and communicate findings in an appropriate format.

Production Management (BBA31)

- To gain an understanding and appreciation of the principles and applications relevant to the planning, design, and operations of manufacturing/service firms.
- To develop skills necessary to effectively analyze and synthesize the many inter-relationships inherent in complex socio-economic productive systems.
- To reinforce analytical skills already learned, and build on these skills to further increase your "portfolio" of useful analytical tools for operations tasks.
- To gain some ability to recognize situations in a production system environment that suggests the use of certain quantitative methods to assist in decision making on operations management and strategy.
- To understand how Enterprise Resource Planning and MRPII systems are used in managing operations
- To increase the knowledge, and broaden the perspective of the world in which you will contribute your talents and leadership in business operations.
- To understand the managerial responsibility for Operations, even when production is outsourced, or performed in regions far from corporate headquarters.

Management Accounting I & II (BBA32 & BBA42)

- Apply managerial accounting and its objectives in a way that demonstrates a clear understanding of ethical responsibilities.
- Prepare various costing schedules where an analysis of cost classification, behaviour, and type is completed.
- Apply and analyze different types of activity-based management tools through the preparation of estimates.
- Analyze cost-volume-profit techniques to determine optimal managerial decisions.
- Prepare a master budget and demonstrate an understanding of the relationship between the components.

- Perform cost variance analysis and demonstrate the use of standard costs in flexible budgeting.
- Outline and apply management tools and techniques such as the balanced scorecard, operational performance measures, quality, and environmental cost management.
- Prepare analyses of various special decisions, using relevant costing and benefits.

Strategic Management (BBA33)

- Analyze the main structural features of an industry and develop strategies that position the firm most favourably in relation to competition and influence industry structure to enhance industry attractiveness.
- Recognize the different stages of industry evolution and recommend strategies appropriate to each stage.
- Appraise the resources and capabilities of the firm in terms of their ability to confer sustainable competitive advantage and formulate strategies that leverage a firm's core competencies.
- Demonstrate understanding of the concept of competitive advantage and its sources and the ability to recognize it in real-world scenarios.
- Distinguish the two primary types of competitive advantage: cost and differentiation and formulate strategies to create a cost and/or a differentiation advantage.
- Analyze dynamics in competitive rivalry including competitive action and response, first-mover advantage, co-competition and winner-take-all and make appropriate recommendations for acting both proactively and defensively.
- Formulate strategies for exploiting international business opportunities including foreign entry strategies and international location of production.
- Make recommendations for vertical changes in the boundary of the firm based on an understanding of the advantages of vertical integration and outsourcing and the factors that determine the relative efficiency of each.
- Make recommendations for horizontal changes in the boundary of the firm based on an understanding of the conditions under which diversification creates value.
- Demonstrate the ability to think critically in relation to a particular problem, situation or strategic decision through real-world scenarios.
- Recognize strategic decisions that present ethical challenges and make appropriate recommendations for ethical decision-making.

Managerial Economics (BBA34)

- Understand the roles of managers in firms
- Understand the internal and external decisions to be made by managers
- Analyze the demand and supply conditions and assess the position of a company
- Design competition strategies, including costing, pricing, product differentiation, and market environment according to the natures of products and the structures of the markets.
- Analyze real-world business problems with a systematic theoretical framework.

- Make optimal business decisions by integrating the concepts of economics, mathematics and statistics.

Office Management (BABA35A)

- The objective of this course is to move students beyond the theories of contemporary management principles to the practice of management skills in a highly participatory classroom environment.
- The course will help participants acquire practical management skills that are of immediate use in management or leadership positions.
- The early part of the course will focus on defining Management Skills and clarifying their importance in the workplace.
- Early work will also address self-awareness and the assessment of core management skills such as communication and providing effective feedback among the participants.
- As the course progresses, students will explore more advanced Management Skills such as conflict resolution, empowerment, working with teams and creating a positive environment for change.

Customer Relationship Management (BSBA36)

- Develop understanding about customer relationship management concepts and frameworks, and how these are applied to form relationships with customers and other internal and external stakeholders.
- Develop skills to analyse and synthesise information and issues, related to customer relationship management, from several perspectives.
- Enhance business communication skills required to work effectively within a marketing team.
- Analyse relationship theory and relationship economics from the point of view of the customer and the organisation.
- Critically analyse an organisation's relational strategies with stakeholder groups that affect how well it meets customer needs
- Evaluate CRM implementation strategies
- Formulate and assess strategic, operational and tactical CRM decisions.
- Plan and conduct an investigation on an aspect of CRM, and communicate findings in an appropriate format.

Management Concepts (BNBA37)

- To facilitate students' understanding of their own managerial skills.
- To improve communication skills.
- To learn from the management experience of others.
- To develop and learn about goals specific to the students of this class
- Have a lot of fun while learning a lot of stuff!
- To explain the basic concepts, principles, and processes of management.
- To expose students to the history of management thought.

- To explore organizational culture
- To use management thought to develop a better understanding of the ways in which gender, race, class, culture, and other contextual differences play out among people in the workplace.
- To examine the complexity of managing in a global world.
- To use management thought to develop a better understanding of motivation.
- To develop an ability to work with moral and ethical dilemmas and make decisions using critical thinking.
- To expose students to several models of leadership.

Materials Management (BBA41)

- Materials management deals with the flow of goods and services throughout an organization's production process, from order placement to product delivery.
- Materials managers seek to find the optimal processes to both satisfy customers and maximize company profits.
- Specific logistics management issues depend on the company or industry; however, programs that teach materials management skills usually also include courses in purchasing, inventory and production planning.
- Problem solving and analysis skills
- Understanding the management component of the field
- Knowledge of professional opportunities for management
- Differences between different kinds of management
- Tools and techniques utilized.

Business Environment (BBA43)

- Discuss the supply and demand theory and its impact on insurance.
- Explain the effects of government policy on the economic environment and insurance industry.
- Outline how an entity operates in a business environment.
- Describe how financial information is utilized in business.
- Explain the legal framework that regulates the insurance industry

Operation Research (BBA44)

- Identify and develop operational research models from the verbal description of the real system.
- Understand the mathematical tools that are needed to solve optimisation problems.
- Use mathematical software to solve the proposed models.
- Develop a report that describes the model and the solving technique, analyse the results and propose recommendations in language understandable to the decision-making processes in Management Engineering.
- Methodology of Operations Research.
- Linear programming:
- Solving methods, duality, and sensitivity analysis.

- Integer Programming.
- Network flows.
- Multi-criteria decision techniques.
- Decision making under uncertainty and risk.
- Game theory.
- Dynamic programming.

Organisational Behaviour (BABA45A)

1. Analyze individual and group behaviour, and understand the implications of organizational behaviour on the process of management.
2. Identify different motivational theories and evaluate motivational strategies used in a variety of organizational settings.
3. Evaluate the appropriateness of various leadership styles and conflict management strategies used in organizations.
4. Describe and assess the basic design elements of organizational structure and evaluate their impact on employees.
5. Explain how organizational change and culture affect working relationships within organizations.

♣ Develop in-depth knowledge on various tools and techniques of Total Quality Management

♣ Evaluate the principles of quality management and to explain how these principles can be applied within quality management systems.

♣ Develop a strategy for implementing TQM in an organization.

♣ Identify the key aspects of the quality improvement cycle.

♣ Select and use appropriate tools and techniques for controlling, improving and measuring Quality.

♣ Teamwork. Individual Work.

♣ Search, analysis and synthesis of data with the use of new technologies.

♣ Decision-making.

♣ Planning and management of projects.

Training and Development (BNBA47)

- Course Overview and Introduction to human resource development
- Strategic human resource development
- Adult Learning • HRD needs investigation and needs analysis
- Training design and development
- Traditional and electronic training methods
- Implementing learning strategies
- Evaluation of training
- Workplace Learning
- Employee and management development
- Special challenges and the future of training and development.

Marketing Management (BBA51)

- Identify core concepts of marketing and the role of marketing in business and society.
- Knowledge of social, legal, ethical and technological forces on marketing decision-making.
- Appreciation for the global nature of marketing and appropriate measures to operate effectively in international settings.
- Ability to develop marketing strategies based on product, price, place and promotion objectives.
- Ability to create an integrated marketing communications plan which includes promotional strategies and measures of effectiveness.
- Ability to communicate the unique marketing mixes and selling propositions for specific product offerings.
- Ability to construct written sales plans and a professional interactive oral sales presentation.
- Ability to formulate marketing strategies that incorporate psychological and sociological factors which influence consumers.
- Ability to collect, process, and analyze consumer data to make informed marketing decisions.
- Ability to analyze marketing problems and provide solutions based on a critical examination of marketing information.
- Ability to apply knowledge and skills to real-world experiences in an internship. Note: Specific outcomes will vary by assigned internship experience.

Business Law (BBA52)

- On completion of this course, learners will be able to: appreciate the relevance of business law to
- Individuals and businesses and the role of law in an economic, political and social context. Identify the fundamental legal principles behind contractual agreements.
- Examine how businesses can be held liable in tort for the actions of their employees.
- Understand the legal and fiscal structure of different forms of business organizations and their responsibilities as an employer.
- Acquire problem solving techniques and to be able to present coherent, concise legal argument.

Cost Accounting (BBA53)

- Discuss the role of cost accounting and quantitative analysis within the organization.
- Apply the principles relating to the costing and control of the different resource inputs into the business.
- Demonstrate costing methods and techniques appropriate to a variety of different business.
- Identify and calculate different types of costs (direct, indirect, variable, and fixed costs).
- Distinguish between job-costing, process-costing, and joint-costing systems.

- Determine the product cost by means of full- costing and direct-costing methods. Determine the product cost by means of historical (actual) and standard cost systems.

Computer Application In Business (BBA54)

- Identify Computer Concepts terminology and concepts; basic operating system functionality and terminology; and internet browsers functionality
- Apply basic and advanced formatting techniques skills to produce word processing documents, including Letters and Memos, Business Reports, Flyers, Newsletters.
- Demonstrate basic skills involving spreadsheet functions; create formulas, charts, and graphs; manipulate data; and generate reports including AutoFill, Absolute Cell References, Grouping sheets and linking formulas
- Develop a database; create and format tables, queries, and reports; and enter and modify table data.
- Develop and deliver business presentations using presentation software; Create presentations using text, visual and/or sound elements; use techniques as slide layout, themes, transitions and animations, charts and tables.

Human Resource Management (BEBA55A)

To have an understanding of the basic concepts, functions and processes of human resource management

- To be aware of the role, functions and functioning of human resource department of the organizations.
- To Design and formulate various HRM processes such as Recruitment, Selection, Training, Development, Performance appraisals and reward Systems, Compensation Plans and Ethical Behaviour.
- Develop ways in which human resources management might diagnose a business strategy and then facilitate the internal change necessary to accomplish the strategy
- Evaluate the developing role of human resources in the global arena.

E-Business (BSBA56)

- Discuss modern computing infrastructures from the perspective of the internet and organisations
- Discuss and explain theoretical and practical issues of conducting business over the internet and the Web
- Reflect on general principles revealed through practical exploration of specific tools, techniques and methods in e-business.

Industrial Relation and Labour Laws (BBA61)

- Provide students with knowledge of labour laws, especially the nature and scope of labour law, the rationale of labour laws in organizations, the international labour organization, the labour laws in Uganda, occupational hazards and risk, and managing employee relations at work.

- To examine the theoretical aspects, problems and issues in arbitration and bargaining and models of bargaining and arbitration.
- The nature and scope of labour laws
- The rationale of labour laws in organizations
- The international labour organization visa-viz the labour laws in Uganda and
- Managing employee relations at work.

Entrepreneurial Development (BBA62)

- Entrepreneurship and Innovation minors will be able to **sell themselves and their ideas**. Students master oral and visual presentation skills and establish a foundation of confidence in the skills necessary to cause others to act.
- Entrepreneurship and Innovation minors will be able to **find problems worth solving**. Students advance their skills in customer development, customer validation, competitive analysis, and iteration while utilizing design thinking and process tools to evaluate in real-world problems and projects.
- Entrepreneurship and Innovation minors will be able to **mobilize people and resources**. Students identify and secure customers, stakeholders, and team members through networks, primary customer research, and competitive and industry analyses in order to prioritize and pursue an initial target market in real-world projects.
- Entrepreneurship and Innovation minors will be able to **create value**. Students are able to create presentations and business plans that articulate and apply financial, operational, organizational, market, and sales knowledge to identify paths to value creation through 1) company formation (for-profit); 2) social innovation (nonprofit); or 3) intellectual property licensing.
- Entrepreneurship and Innovation minors will **develop and cultivate endurance**. Students increase their awareness and deliberately practice the skills and disciplines necessary to increase confidence and agency; foster self-efficacy and self-advocacy; improve communication and problem-solving skills manage strong impulses and feelings; and identify personal purpose.

Financial Management (BEBA63A)

- Introduce students to financial management and its importance and its applications in business, their relationship with the business environment and the role and functions of chief financial officer.
- Introduce students to financial planning, and objectives, and its benefits, and the types of areas and stages of financial planning, and the factors that help the success of financial planning. Introduce students to the methods used in financial planning to assess the short-term financial needs.
- Introduce students to time value of money and its relationship to the objectives of financial management, rationale for using the time value of money, and simple and

compound interest and how to calculate it, and also to understand the present value of the future payments.

- Introduce students to major financial statements of businesses as well as the definition of the purposes and tools of financial analysis and its importance in the financial control process.
- Introduce students to the basics of investing in securities through exposure to the following points: knowledge of financial markets, and their components, and functions of the financial market, and the parties worked in the financial markets, the stock traded in the money markets and capital markets, then find out the efficiency standards of the financial market, as well as valuations of Shares and bonds.
- Giving students how to apply full financial cycle and makes the necessary adjustments on service and commercial installations.
- Giving student's of Application processors to finance small projects.

Marketing Research (BEBA64A)

- Marketing research is the foundation for building knowledge about the market. It's an exciting and critical aspect of marketing.
- It covers a wide range of phenomena and it can help to answer many questions and reduce the uncertainty in decision making. This course is taught with a practice orientation.
- It is hoped that students will gain a practical and sound understanding of how marketing research is conducted in the real business environment.
- At the end of the course, you will become acquainted with SPSS, a statistical package commonly used by research houses, and you will be able to write research proposals, identify research problems, design survey questionnaires, analyze data and write a research report.

Creativity and Innovation Management (BSBA65)

- Creativity and innovation are integral to an organization's ability to survive and thrive in today's competitive marketplace.
- This course provides students with an understanding of how creativity and innovation can be facilitated and managed in a work setting. Students will learn about theoretical conceptualizations of creativity and innovation as well as practical applications involved in fostering creativity and innovation in the workplace.
- Students will be expected to play an active role in learning through class exercises, class discussions, dialogue with guest speakers, and presentations about real (or planned) innovations in organizations.

Group Project (BPBA66)

- To help students to apply the concepts studied in the institution
- To gain on the field experience and identify present problems faced by the industry
- To help students gain career development skills
- To gain practical exposure that will bridge the gap of industrial expectation.