Bachelors in Commerce (B.Com)

PROGRAMME OUTCOME

1: After completing three years for Bachelors in Commerce (B. Com) program, students would gain athorough grounding in the fundamentals of Commerce and Finance.

2: The commerce and finance curriculum offers a number of specializations and practical exposures which would equip the student to face the modern-day challenges in commerce and business.

3: The all-inclusive outlook of the course offers a number of values based and job-oriented courses &ensures that students are trained into up-to-date. In advanced accounting courses beyond the introductory level, affective development will also progress to the valuing and organization levels.

PROGRAMME SPECIFIC OUTCOME

1. Students will be able to demonstrate progressive learning of various tax issues and tax forms related to individuals. Students will be able to demonstrate knowledge in setting up a computerized set of accounting books.

2. Students will demonstrate progressive affective domain development of values, the role of accounting in society and business.

3. Students will learn relevant financial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.

F.Y.B. Com - Course Outcome

Subject	Outcome
Financial Accounting I & II	1. To understand the various accounting concepts like Branch accounts, Departmental Accounts, Hire purchase Accounts etc. 2. To impart the knowledge of various accounting concepts. 3. To instill the knowledge about accounting procedures, methodsand techniques
Business Economics I & II	1. To understand the basic elements of economics & to understand certain common features of economic applications in real world. 2. To expose Students of Commerce to basic micro economic concepts and inculcate an analytical approach to the subject matter. 3. To stimulate the student interest by showing the relevance and use of various economic theories. 4. To apply economic reasoning to problems of business.
Business Mathematics and Statistics I & II	1. To understand basic concepts of mathematical & statistical techniques & its application in commerce & management 2. To understand the concept of Simple interest, compound interest and the concept of EMI. 3. To understand the concept of shares and to calculate Dividend.

	4. To understand the concept of population and sample.
Commerce I & II	1. To enable the students to get the know-how of commerce & to create an interest in investment its wide scope. 2. To make the students aware about the Business Environment. 3. To motivate students to make their mind set for taking upentrepreneurship as career.
Business Communication I & II	1. Learner learns basic communication skills in business & day to day life. 2. To develop awareness regarding new trends in business communication. 3. To provide knowledge of various media of communication.
Foundation Course I & II	1. It helps the students to upgrade their knowledge on current challenges and issues of Indian society. 2. To develop awareness regarding Indian Constitution &Political processes. 3. To impart the knowledge of Ethical & Cultural values in Indian Society.
Environmental Studies I & II	1. To expose the students to the emerging environmental issues at global, national & regional level. 2. To aware students about environmental degradation & their effects to overcome it. 3. To impart students, focus on environment-& human relations.

S.Y.B.Com Course Outcome

Subject	Outcome
Financial accounting III & IV	1. Learners get the knowledge of various accounting concepts related with Partnership. 2. Learners get acquainted with methods used in Conversion of firms into Joint Stock Company. 3.Learners get knowledge of various provisions of Companies Act 2013
Management accounting, I & II	1. Learners understand various management accounting concepts & their applications. 2. Learners understand the various accounting analysis in management point of view. 3. Learners impart the knowledge of various types of budgeting and statements created in management accounting.
Business Economics III & IV	1. To understand the underlying concepts & practical tradeoffs entailed in public finance & policy alternatives. 2. Learners get acquainted with economic policy alternatives apply in business 3. To apply economic reasoning to problems of business.

Advertising I & II	1. Learners will understand the impulse of consumers to create demand by developing advertising & marketing Strategies. 2. To establish link between Business and marketing.
Commerce III & IV	1. Learners get acquainted with different concepts of management & related theories &Principles 2. To establish relevance of commerce & marketing in modern competitive world.
Business Law I & II	1. Learner learns about various laws, Contract and Agreements applicable in Business world. 2. Learners get acquainted about various Partnership Contract used in Commerce world.
Foundation Course III & IV	1. To make aware of various Rights their role in development of Indian Society. 2. To impart the knowledge of environment & science & their correspondence with present world.

T.Y.B. Com Course Outcome

Subject	Outcome
Financial accounting V & VI	1. Learner will be able to handle corporate accounts in actual world. 2. Learners get acquainted with the different types of Amalgamation & their Procedures. 3. Learners understand the accounting Concept applies in corporate world.
Cost accounting, I & II	1. Learners will analyze techniques and methods of costing. 2. To Impart the Knowledge of Basic Cost concepts, Elements of cost, Ascertainment of Material and Labor Cost.
Business Economics V & VI	1. To expose the students to emerging economic issues at global & national level to understand policy measures. 2. To help the students in analyzing the present status of the Indian Economy. 3. To acquaint students with the emerging issues in policies of India's foreign trade.
Export Marketing I &II	1. Learners get acquainted with foreign trade policy 2015-2020. 2. Learners understand the procedure for export & import & strong potentials of Export in development of nation.
Commerce V & VI	1. Learners are capable to understand different facts of marketing & Human Resource Management to attainting organizational goal. 2. Learners get acquainted with marketing mix & recent development in Marketing & Human Resource management.

Computer application & programming I & II	1. Learners get knowledge of computer application & Programming languages & its practical usage in day-to-day activities. 2. To make the students familiar with the basics of Operating System and business communication tools. 3. To make the students familiar with basics of Network, Internet and related concepts.
Direct & Indirect Taxation I & II	1. Learners understand taxation system, concepts & acts applicable in India. 2. To understand the basic concepts and to acquire knowledge about Indirect Taxes especially Goods & Service Tax applicable in India.

BSc Chemistry: Programme outcome

- Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry.
- Solve the problem and also think methodically, independently and draw a logical conclusion.
- Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of chemical reactions.
- Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.
- Find out the green route for chemical reaction for sustainable development.
- To inculcate the scientific temperament in the students and outside the scientific community.

B.Sc. Physics: Programme outcome

- The systematic and planned curricula from these courses shall motivate and encourage learners to understand basic concepts of Physics.
- Developing Curriculum that is progressive and purposeful to create positive improvement in the education system is the logic behind this revision.
- Out of the three courses in each Semester, two courses are devoted to core Physics, catering to Mechanics, Thermodynamics, Optics, Electrodynamics, Quantum Mechanics, Mathematical Physics and Digital and Analog Electronics.
- To develop analytical abilities towards real world problems.
- To familiarize with current and recent scientific and technological developments.
- To enrich knowledge through problem-solving, hands-on activities, study visits, projects etc.
- The science of Physics has diversified immensely in recent times and numerous new fields in Physics, such as Crystal physics, Geo-Physics, Radio.

B.Sc. Zoology: Programme Outcome

- To nurture interest in the students for the subject of Zoology
- To create awareness of the basic and modern concepts of Zoology.
- To orient students about the importance of abiotic and biotic factors of environment and their conservation.
- To provide an insight to the basic nutritional and health aspects of human life.
- To inculcate good laboratory practices in students and to train them about scientific handling of important instruments.

Course Outcome:

F.Y.B.Sc.	Course Outcome
Chemistry Paper-I	• Facilitate the learner to make solutions of various molar concentrations. This may include: The concept of the mole; Converting moles to grams; Converting grams to moles; • Defining concentration; Dilution of Solutions; Making different molar concentrations. State and apply the laws of thermodynamics and kinetics. • In addition to that atomic structure, stereo chemical concept, and fundamentals of reaction mechanism must be known by students.
Chemistry Paper-II	• Students can apply the fundamental principles of measurement, matter, atomic theory, chemical periodicity, chemical bonding, general chemical reactivity and solution chemistry to subsequent courses in science. • Stereochemistry basic concepts. Understanding and Writing mechanism of organic reactions to predict the outcome of reactions. • Determine the aromaticity of different compounds.
Physics Paper-I	• Understand Newton's laws and apply them in calculations of the motion of simple systems. • Use the free body diagrams to analyze the forces on the object. • Understand the concepts of friction and the concepts of elasticity, fluid mechanics and be able to perform calculations using them • Understand the concepts of lens system and interference. • Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process. • Demonstrate quantitative problem-solving skills in all the topics covered.
Physics Paper-II	• Understand the basic mathematical concepts and applications of them in physical situations. • Understand nuclear properties and nuclear behavior. • Understand the type isotopes and their applications. • Demonstrate and understand the quantum mechanical concepts. • Demonstrate quantitative problem-solving skills in all the topics covered.
Zoology Paper-I	• Curiosity will be ignited in the mind of learners, to know more about the fascinating world of animals which would enhance their interest and love for the subject of Zoology. • Learners would appreciate treasure of Biodiversity, its importance and hence would contribute their best for its conservation. • Minds of learners would be impulse to think differently and would be encouraged ipso facto to their original crude ideas from the field of biological sciences. • This paper would allow learners to study about nature of animal population, specific factors affecting its growth and its impact on the population of other life form. Erupting spur of desire for conservation of all flora and fauna. • Learners would be inspired to choose career options in the field of wild life conservation, research, photography and ecotourism.

Zoology Paper-II	• Learners would work safely in the laboratory and avoid occurrence of accidents (mishaps) which will boost their scholastic performance and economy in use of materials/chemicals during practical sessions. • Learners would understand recent advances in the subject and their applications. • Students will be skilled to select and operate suitable instruments for the studies of different components of Zoology of this course and also of higher classes including research. • Healthy dietary habits would be inculcated in the life style of learners in order to prevent risk of developing health hazards in younger generation due to faulty eating habits, • Promoting optimum conservation of water, encouragement for maintaining adequate personal hygiene. • Learners will be able to promptly recognize stress related problems at initial stages and would be able to adopt relevant solutions.
Mathematics Calculus-I & II Paper-I	• System of real numbers with their properties with respect to (+), (.) density property, Archimedean property. • Method of induction, definition of sequence, limit of sequence, monotonic sequence. • Epsilon delta definition of limit, algebra of limit, continuity at point and in domain, sequential continuity.
	• Series, sum of series, test for convergence of series. • Algebra of continues function, higher order derivatives, implicit function. • Definition of local maxima and local minima, monotonic function, Taylor polynomials.
Mathematics Algebra-I & Linear Algebra -II Paper-II	• Integers and their properties with respect to (+), (.), division algorithm, lcm, Euler's function, congruence. • Function and their types, equivalence classes, residue class modulo n. • Polynomials and their properties in R[x], solving cubic equations. • System of linear equations and their solutions, matrices & their properties, rank of matrix. • Definition of vector space over R, linearly independent, linearly dependent, subspace of vector spaces and their properties. • Basis of vector space, dimension of vector space, linear transformation, kernel of L.T., image of L.T., Rank-Nullity theorem.
SY BSc	**Course Outcome**

Chemistry-I	• Students are expected to understand and derive equations for Free energy functions, Gibb's- Helmholtz equation, Van"t Hoff reaction Isochore and Gibb's Dohme equation. Understand the Concept of fugacity and activity. • Students should be able to define conductance, specific conductance, equivalent and molar conductance. State Kohlrausch's law if independent migration of ions and its applications. What is transference number and how it is determined using Moving Boundary Method. • Students are expected to understand the concept of electrochemical conventions, reversible and irreversible cells. Nernst equation and its importance. • Calculation of thermodynamic properties like, ΔH and ΔS, Concentration cell with and without transference, Liquid junctionpotential and salt bridge. Use of Quinhydrone electrode for pH determination. • Gibb's phase rule, Clausius- Clapeyron equation, one component systems: - water and Sulphur system, two component system: - lead silversystem. • Discuss kinetics, mechanism and stereochemistry of SN1 and SN2 reactions. Compare between SNAR and SNCB reactions. • Understand the evidences, reactivity and mechanism of various reactions. Synthesis using Organometallics. • In addition to that students should aware about application of molecular orbital theory with its fundamentals to various diatomic molecules of homo and hetero atoms type.
Chemistry-II	• Students are expected to know the different types of Complex reactions. Thermal chain reactions, Arrhenius equation, Concept of energy of activation. Collision theory and activated complex theory. • Ideal solutions and Raoul's law, Gibbs phase rule, Vapor composition diagram, Critical solution temperature, phenol water system, trimethylamine water system and Nicotine water system. Steam distillation method, Nernst distribution law. • Students are expected to understand the characteristics of simple, face centered and body centered cubic systems, interplanar distances, Bragg's equation, Xray diffraction method for crystal structure determination. Determination of Avogadro's number. • Students are expected to know types of catalysis, catalytic activity,
	mechanisms and kinetics of acid base catalyzed and enzyme catalyzed reactions, effect of particle size and efficiency of nanoparticles as catalyst. Chemistry of silicon, germanium, chemistry of nitrogen family , chemistry of boron, acid-base chemistry and chemistry of environment must be aware by student. • Students are expected to apply their knowledge to problem-solving, deduce structures, and synthesize simple organic molecules using the studied reactions. • The students familiar about the inorganic halogen compounds, coordination compounds and transition elements. • Synthesis reactions &conversions using Carbonyl compounds.

Chemistry-III	• The learner is expected to be familiar with the question of what analysis, why it is required and the methods, techniques, procedures and protocols that may be used in the course of given problem of analysis. • The learner is also expected to appreciate the role of analytical chemist and chemical analyst, correctness or acceptability of the results of a given analysis and how to deal with wrong or erroneous results, when to reject them and when and how to retain them to be meaningful are some other attributes expected as outcomes of learner.
Physics Paper-I	• Understand the concepts of mechanics & properties of matter & to apply them to problems. • Comprehend the basic concepts of thermodynamics & its applications in physical situation. • Learn about situations in low temperature. • Demonstrate tentative problem-solving skills in all above areas. • Understand the diffraction and polarization processes and applications of them in physical situations. • Understand the applications of interference in design and working of interferometers. • Understand the resolving power of different optical instruments. • Understand the working of digital circuits • Use IC 555 time for various timing applications. • Demonstrate quantitative problem-solving skills in all the topics covered.
Physics Paper-II	• Understand the basic concepts of mathematical physics and their applications in physical situations. • Understand the basic laws of electrodynamics and be able to perform calculations using them. • Understand the basics of transistor biasing, operational amplifiers, their applications • Understand the basic concepts of oscillators and be able to perform calculations using them. • Demonstrate quantitative problem-solving skill in all the topics covered. • Understand the postulates of quantum mechanics and to understand its importance in explaining significant phenomena in Physics.
Physics Paper-III	• Students will be exposed to contextual real-life situations. • Students will appreciate the role of Physics in 'interdisciplinary areas related to materials, Bio Physics, Acoustics etc. • The learner will understand the scope of the subject in Industry & Research. • Experimental learning opportunities will faster creatively thinking & a spirit of inquiry.
	• Understand the concepts of mechanics & properties of matter & to apply them to problems. • Comprehend the basic concepts of thermodynamics & its applications in physical situation. • Learn about situations in low temperature. • Demonstrate tentative problem-solving skills in all above areas.

Zoology Paper-I	• Learner would comprehend and apply the principles of inheritance to study heredity. • Learner will comprehend the structure of chromosomes and its types and also the mechanisms of sex determination. • Learner will understand the importance of nucleic acids as genetic material. • Learner will analyze and critically view the different theories ofevolution. • Learner would understand the forces that cause evolutionary changes in natural populations. • The learner will imbibe the skills of scientific communication and he/she will understand the ethical aspects of research.
Zoology Paper-II	• Learner would understand the increasing complexity of nutritional, excretory and osmoregulatory physiology in evolutionary hierarchy. • Learner would understand the increasing complexity of respiratory and circulatory physiology in evolutionary hierarchy. • Learner would understand the process of control and coordination by nervous and endocrine regulation. • Learner would acquire insight into the composition of the transport mechanisms adopted by the cell and its organelles for its maintenance and composition of cell. • Learner would appreciate the intricacy of endomembrane system. The learner will realize the importance of biomolecules and their clinical significance.
Zoology Paper-III	• Learner would gain insight into different types of animal behavior and their role in biological adaptations. • Learner would understand the general epidemiological aspects of parasites that affect humans and take simple preventive measures for the same. • Learner would learn the modern techniques in animal husbandry. • Learner would gain knowledge on the functioning of various aspects of dairy industry, indigenous, exotic cattle and buffalo breeds in India. • To comprehend the functioning of sericulture industry and its scope in India. • To comprehend various kinds of aquaculture practices and its scope as fishery resource in India.
Mathematics Calculus Paper-I	• Inner product in n –dimension, open ball, closed ball, directional derivates. • Differentiability in n-dimension, gradients, chain rule, partial derivatives. • Jacobin matrix. Hessian matrix, local extrema in two variables. • Riemann integration, lower sum, upper sum, properties of Reimann integration. • Continuity of indefinite and improper integrals, mean value theorem, Abel's test.
	• Alpha, beta functions, area between curves, length of curves.

Mathematics Algebra Paper-II	• Ker(T), image(T), row space, solution of homogeneous and non-homogenous system of linear equations. • Determinants and their properties, crammer's rule, area of triangle. • Dot product and their properties, norm of vectors, Pythagoras theorem, orthogonal vectors and orthogonal compliments, Gram Schmidt's process of orthogonality. • Groups, subgroups definition and their properties, SNU(n), K4, types ofgroups. • Cyclic groups and subgroups of cyclic groups and their properties. • Lagrange's theorem, group homomorphism, cosets, kernel & image of homomorphism.
Discrete Mathematics & Differential equations Paper-III	• Permutation and their properties, product and transpositions, sign of permutations, solving recurrence relation. • Countability of number system. • Pascal's identity, s(n k), principal of inclusion and exclusion , Euler's function. • Solving differential equations by variable separable method, by substitution method, exact differential equation, non-exact differential equations and their solutions techniques. • Homogeneous and non-homogeneous second order differential equation, Wronskian, auxiliary equations. • Linear system of ODE‟S.
T.Y.B.Sc.	**Course Outcome**
Physical Chemistry-Paper-1	• Students understands the concept of dipole moment and its applications, derive the equations for energy of the molecules performing rotational motion and vibrational motion in terms of wave number, explain the Raman spectroscopy theory and should be able to solve numerical based on it. • Students should be able to explain the colligative properties in chemical thermodynamics and various methods to determine the colligative properties. • Students should be able to explain the collision theory of Chemical reaction rates. Classification of reaction rates. • Concepts of Nuclear Chemistry. Detection and measurement of radioactivity, application of use of radioisotopes as tracers, nuclear reactions, fission process, fusion process. • Students should be able to explain and derive Langmuir adsorption isotherm, types of adsorption isotherm, colloidal state, its electrical properties, micelle formation, classification of surfactants and its applications. • Students are expected to know concepts of activity and activity coefficient, classification of cells, polarization, decomposition potential and overvoltage. • Basic terms in polymers, classification of polymers, molar mass of polymers, method of determining molar masses of polymers, light emitting polymers, antioxidants and stabilizers. • Basics of Quantum Chemistry, classical mechanics, quantum mechanics, progressive and standing waves, renewable energy resources. • Basics of NMR and ESR.

Inorganic Chemistry-Paper-II	• Students are expected to understand basic concept of symmetry and point group symbols, they must be able to know the importance of symmetry, point group in theoretical chemistry. • It's expected that students must be aware about application of molecularorbital theory for polyatomic species like Be H2, CO2, H2O etc. • Information of inner transition elements and their properties and extraction, information of metal carbonyls, 16^{th} and 17^{th} group elements must be known to students • Knowledge about coordination chemistry and its bonding by various theories, organometallic chemistry, fundamentals of Bio inorganic chemistry of must be known to students.
Organic Chemistry-Paper-III	• Students will gain an understanding of the use of nuclear magnetic resonance spectroscopy, mass spectrometry and infrared spectroscopy for organic structure elucidation. • Understanding of organic reaction mechanisms to predict the outcome of reactions and to design syntheses of organic molecules. Knowledge in Organic photochemistry. • Students should be able to understand the stereochemistry of molecules and their effect on chemical reactions. • The fundamental structure, properties and reactivity of biologically important molecules (e.g. carbohydrates, proteins, nucleic acid, Alkaloids and Terpenoids). • Student will gain an understanding of green chemistry and application of the same in organic synthesis with selectivity. • Differentiate between natural and man-made polymers. Explain polymerization methods.
Analytical Chemistry-Paper-IV	• Students should be able to explain the theoretical principles of various separation techniques in chromatography, and typical applications of chromatographic techniques. • Assess and suggest a suitable analytical method for a specific purpose, and evaluate sensitivity, important sources of interferences and errors, and also suggest alternative analytical methods for quality assurance.
Applied component-Drugs & Dyes-Paper V	• To know the classification based on pharmacodynamics and chemotherapeutic drugs, their application and synthesis. • To understand the concept of routes of drugs administration and dosages. • To understand the concept drug discovery, design and development. • Students are able to have the knowledge of use of nano particles in medicinal chemistry and effect of drugs on the environment. • To study the waste management in the field of dye industry. • To understand the function of natural and synthetic dyes, paints and pigments. • To understand different unit process involved in the synthesis of intermediates and dye molecules. • Students are able to understand the concept of classification of dyes based on chemical constitution and application and their synthesis. • They are able to understand the application of dyes in the various non-textile fields.

B.Com (Banking & Insurance)

Program Outcome

- The course clears concepts of Banking & Insurance.
- Provides knowledge on modern trends in banking & insurance industry
- Helps in train students in the field of finance, banking, accounting, insurance law, insurance regulations, etc
- Guides the students with theoretical knowledge as well as practical application and provides exposure to students in market reforms, new banking policies and regulations.
- Creates an additional avenue of self-employment and also benefits banks, insurance companies by providing suitable trained persons in the field of banking and insurance.
- Prepares students to make the best of opportunities being newly created in this field due to Globalization, Privatisation and Liberalization.

Program Specific Outcome:

- The programme is structured in such a way that it provides training in the field of finance, banking, accounting, insurance law, and insurance regulations, among others.
- It covers the subjects from the banking field but also covers various subjects of commerce, and communication skills. It also helps train candidates how to efficiently handle technologies used in the field of banking and insurance.
- The main aim of BBI course is to provide students with a deep insight into the real world of Banking and insurance through theory and practical sessions.
- It is structured to give a great career choice for those who wish to pursue their career in the banking field.
- It not only provides you with theoretical knowledge but also helps in its practical application and to provide ample exposure to students with market reforms, new banking policies and regulations.

F.Y.B.Com (Banking & Insurance) Semester –I

Sr. No.	Subject Name	Course Outcome
1	Environment and Management of Financial Services.	To improve basic knowledge on environment and management and its financial services.
2	Principles of Management	To make the management concepts clear among thestudents
3	Financial Accounting - I	To developed the knowledge of various accountingstandard and its accounting transactions.
4	Business Communication-I	To enhance communication skills of the students. It aidsin personality development of the students.
5	Foundation Course - I	To make the better understanding about Indian societyand constitution

6	Business Economics-I	It help to focus on effective use of economic resources to achieve defined objective
7	Quantitative Methods-I	To learn various quantitative method using statistical techniques.

F.Y.B.Com (Banking & Insurance) Semester –II

Sr. No.	Subject Name	Course Outcome
1	Principles and Practices of Banking & Insurance	To learn about the concepts, functions and types of banks and insurances.
2	Business Law	To learn basic concept of the constitution of India and its various types of law and Acts
3	Financial Accounting - II	To gain the knowledge of various accounting concept of companies related to long term sources of funds.
4	Business Communication-II	To enhance communication skills of the students. It aids in personality development of the students.
5	Foundation Course - II	To learn concepts of human rights, understanding of stress and conflicts & how to manage it
6	Organisational Behavior	To understand management theory and its practices and frame and how organization behavior is conducted in various field
7	Quantitative Methods-II	To improve the knowledge of students in mathematical technique

S.Y.B.Com (Banking & Insurance) Semester –III

Sr. No.	**Subject Name**	**Course Outcome**
1	Financial management -I	To understand the financing evaluation technique
2	Management accounting	To get the knowledge about financial statement analysisand dividend policy
3	Organizational behavior	To understand the skill to developed knowledge related to behavior in organization
4	Information Technology inBanking& Insurance-I	Students will get the knowledge and understanding of E-Commerce and Cyber Security. They will learn MS-Excel and MS-Word.

5	Foundation Course – III (An Overview of Banking Sector)	To gain the knowledge of banking concepts, terms, about NABARD and micro finance
6	Financial markets	To develop knowledge of various financial market of India
7	Direct taxation	To learn the basic concept of direct tax

S.Y.B.Com (Banking & Insurance) Semester –IV

Sr. No.	Subject Name	Course Outcome
1	Financial management –II	To get the knowledge of financial managementwith reference to budgeting
2	Cost accounting	To get the knowledge about various cost accounting techniques
3	Entrepreneurship management	To understand various concepts, skills of entrepreneurship and its various theory
4	Information technology in banking &insurance-II	
5	Foundation course - IV (an overviewof insurance sector)	To learn concepts, advantages of insurance and itsvarious types
6	Corporate & securities law	To learn about new corporate rules and regulations
7	Business economics-II	To get the knowledge about economic relations ofIndia with foreign countries

T.Y.B.Com (Banking & Insurance) Semester –V

Sr. No.	Subject Name	Course Outcome
1	Financial Reporting & Analysis(Corporate Banking & Insurance)	To get practical accounting treatment in corporate banking and insurance
2	Auditing – I	To learn basic of auditing and understand vouching & verification
3	Strategic Management	To develop the understanding and decision making skills among the students related to business strategy
4	Business Ethics and Corporate Governance	Students learn the concepts of ethic, values, corporate governance in business.
5	International Banking and Finance	Making students capable to actively participate in the changing trends of foreign currency and international financial markets.
6	Research Methodology	To obtain the knowledge about research technique and tools in banking and insurance

T.Y.B.Com (Banking & Insurance) Semester –VI

Sr.No.	Subject Name	Course Outcome
1	Security Analysis and Portfolio Management	To understand introduction and process of portfolio management
2	Auditing - II	To enhance skill of auditing in banking companies
3	Human Resource Management	To understand human resources management in large and small businesses
4	Marketing in Banking & Insurance	To learn about the marketing concepts in relation to banking and insurance
5	Central Banking	Helps learners to understand the various policy measures of Central Bank in different economic scenario. It helps learners to appear for competitive exam
6	Project Work In Banking & Insurance	To develop the basic skills of research in banking & insurance

B.Com (Accounting & Finance)

Program Outcome

- The course provides aspirants ample expertise and efficiency in the field ofaccounting, taxation, auditing, risk management, financial accounting, managerial economics, and business law and business communication.
- Improves self-employment as well as benefits the organization by providing them suitably trained persons in the field of accounting and finance.
- Provides exposures to learners on new developments recent trends in accounting and finance
- Guides the students with theoretical knowledge as well as practical application and trains them adequately in market reforms, new financepolicies and regulation.
- Prepares students to make the best of opportunities being newly created in accounting and finance field due to Globalization, Privatisation and Liberalization

Program Specific Outcome:

- Have fundamental knowledge of finance, accountancy, audit, taxation, law, technology and innovative practices.
- Communicate effectively with all stake holders.
- Work at both individual and team level.

F.Y.B.Com (Accounting & Finance) Semester –I

Sr. No.	Subject Name	Course Outcome
1	Financial Accounting (Elements of Financial Accounting) – I	To learn various accounting methods of manufacturing firms.
2	Cost Accounting (Introduction and Element of cost) – I	To understand basics of cost accounting & preparation of cost sheet.
3	Financial Management (Introduction to Financial Management) – I	Helps to know how to manage the finance and how to invest in the business. It also provides the knowledge of Interest calculation on bank deposits.
4	Business Communication- I	It enhances communication skills for the students and aids in their personality development.
5	Foundation Course – I	It enhances learner‟s knowledge on Indian society, culture and Indian Constitution.
6	Business Economics – I	Help to understand the working of an economy.
7	Commerce (Business Environment) – I	To make students understand the environmental implication affecting business.

F.Y.B.Com (Accounting & Finance)
Semester –II -

Sr. No.	Subject Name	Course Outcome
1	Financial Accounting (Special Accounting Areas) - II	To learn special accounting areas like consignment, branch, fire insurance claims and account for incomplete records.
2	Auditing (Introduction and Planning) – I	Helps to know how to examine various financial statements in appropriate manner.
3	Innovation Financial Service	Develops the knowledge on various types of financial services and facilities.
4	Business mathematics	Develops logical and mathematical techniques of learners.
5	Foundation Course II	To make learner understand the LPG concept of Indian economy, Human rights, ecology & stress management skills.
6	Business Communication II	It enhances communication skills for the students and aids in their personality development.
7	Business Law (Business Regulatory Framework) - I	To understand the basic concept of law and various types of Act.

S.Y.B.Com (Accounting & Finance)
Semester –III

Sr. No.	Subject Name	Course outcome
1	Foundation Course in Commerce (Financial Market Operations) - III	To gain knowledge about financial terms, market, operation.
2	Business Law (Business Regulatory Framework) - II	To learn about legal framework.
3	Taxation - II (Direct Taxes Paper- I)	To impart to the students various source of income tax and its procedure to calculate Income Tax.
4	Auditing (Techniques of Auditing and Audit Procedures) – II	To get knowledge on techniques and procedures of auditing.
5	Business Economics - II	To teach the students major concepts of economy.
6	Financial Accounting (Special Accounting Areas)- III	To gain the knowledge about final A/c, Merger, piecemeal distribution & Foreign exchange.

7	Information Technology in Accountancy – I	Students will be able to understand E-business, techno management and application of Information Technology in banking. They will get the knowledge of MS-Office packages for institutional automation.

S.Y.B.Com (Accounting & Finance)) Semester –IV

Sr. No.	Subject Name	Course Outcome
1	Financial Accounting (Special Accounting Areas) – IV	To acquire knowledge on companies related accounting treatment.
2	Research Methodology in Accounting and Finance	To understand basic research, Data collection, data processing, Sample and research report.
3	Taxation - III (Direct Taxes- II)	To understand tax saving and tax calculation of different person.
4	Foundation Course in Management (Introduction to Management) - IV	To obtain knowledge about management & its various skills.
5	Auditing – III	To understand the innovative tools and techniques of auditing.
6	Business Law (Company Law) - III	To understand concept of incorporation of company and its prospectus.
7	Information Technology in Accountancy –II	

T.Y.B.Com Accounting & Finance) Semester –V

Sr. No.	Subject Name	Course Outcome
1	Financial Accounting V	To learn about accounting standard and underwriting of shares and debentures.
2	Financial Accounting VI	To gain the knowledge about banking companies final a/c and valuation of goodwill and share.
3	Cost Accounting – III	To inculcate cost accounting system with special references to service costing and processing costing.
4	Financial Maagement –II	To provide adequate understanding about financial management and capital structure, cost of capital and credit policy etc.
5	Management - II (Management Applications)	To learn about different areas of management like finance, marketing, HR.
6	Taxation - IV (Indirect Taxes - II)	To learn the basic concepts of GST.

T.Y.B.Com (Accounting & Finance) Semester –VI

Sr. No.	Subject Name	Course Outcome
1	Financial Accounting VII	To obtain the knowledge about co-operating and electricity companies accounting treatment.
2	Cost Accounting - IV	To get the knowledge related to effective cost structure and managerial decision.
3	Financial Management –III	To develop the understanding about business valuation and decision making related to finance.
4	Taxation - V (Indirect Taxes- III)	To understand the various concept of tax and IT refund.
5	Economics Paper – III (Indian Economy)	To understand the concept of our Indian economy.
6	Project Work	To develop basic research skills in relation to accounting finance & management.

Computer Science

FYCS

Program Outcome

- To develop an understanding and knowledge of the basic theory of Computer Science with good foundation on theory, systems and applications.
- To foster necessary skills and analytical abilities for developing computer-based solutions of real-life problems.
- To provide training in emergent computing technologies which lead to innovative solutions for industry and academia.
- To develop the necessary study skills and knowledge to pursue further post-graduate study in computer science or other related fields.
- To develop the professional skillset required for a career in an information technology-oriented business or industry.
- To enable students to work independently and collaboratively, communicate effectively, and become responsible, competent, confident, insightful, and creative users of computing technology

Course Outcome

- To formulate, to model, to design solutions, procedure and to use software tools to solve real world problems.
- To design and develop computer programs/computer -based systems in the areas such as networking, web design, security, cloud computing, IoT, data science and other emerging technologies.
- To familiarize with the modern-day trends in industry and research-based settings and thereby innovate novel solutions to existing problems.

- To apply concepts, principles, and theories relating to computer science to new situations.
- To use current techniques, skills, and tools necessary for computing practice
- To apply standard Software Engineering practices and strategies in real-time software project development
- To pursue higher studies of specialization and to take up technical employment.
- To work independently or collaboratively as an effective tame member on substantial software project.
- To communicate and present their work effectively and coherently.
- To display ethical code of conduct in usage of Internet and Cyber systems.

Specific Outcome

Course Code	Course Title	Credits	Lectures /Week
USCS102	**Introduction to Programming with Python**	**2**	**3**
About the Course: This course is aims at introducing one of the fastest growing programming language of current time and enables learners to understand the fundamentals of programming with Python. Learners will be able to write programs to solve real-world problems, and produce quality code. It will help to develop strong skills of programming for implementing applications for emerging fields including data science and machine learning.			
Learning Outcomes: After successful completion of this course, students would be able to: • Ability to store, manipulate and access data in Python • Ability to implement basic Input / Output operations in Python • Ability to define the structure and components of a Python program. • Ability to learn how to write loops and decision statements in Python. • Ability to learn how to write functions and pass arguments in Python. • Ability to create and use Compound data types in Python			
Course Code	**Course Title**	**Credits**	**Lectures /Week**
USCS103	**LINUX Operating System**	**2**	**3**
About the Course: This syllabus will help to train students in fundamental skills and build-up sustainable interest in Linux Operating System. It will improve necessary knowledge base to understand Linux Operating System and its practical implementation; it will also help to develop Linux based solutions for real life problems.			

Learning Outcomes:
After successful completion of this course, students would be able to

- Work with Linux file system structure, Linux Environment
- Handle shell commands for scripting, with features of regular expressions, redirections
- Implement file security permissions
- Work with vi, sed and awk editors for shell scripting using various control structures
- Install softwares like compilers and develop programs in C and Python programming languages on Linux Platform

In the first year basic foundation of important skills required for software development islaid. Second year of this course is about studying core computer science subjects.

The third year is the further advancement which covers

Outcomes of Subjects of Computer Science

F.Y.B.Sc (Computer Science)

Outcome of Subjects

Semester I

Course Code	Course Title	Credits	Lectures /Week
USCS101	**Digital Systems & Architecture**	**2**	**3**

About the Course:
This course introduces the principles of computer organization and the basic architecture concepts.The course emphasizes performance and cost analysis, instruction set design, pipelining, memory technology, memory hierarchy, virtual memory management, and I/O systems.

Learning Outcomes:
After successful completion of this course, students would be able to

- To learn about how computer systems work and underlying principles
- To understand the basics of digital electronics needed for computers
- To understand the basics of instruction set architecture for reduced and complex instruction sets
- To understand the basics of processor structure and operation
- To understand how data is transferred between the processor and I/O devices

Course Code	Course Title	Credits	Lectures /Week
USCS104	**Open Source Technologies**	**2**	**3**

About the Course:

Open Source Software is becoming an important resource for development, especially in developing countries. A working understanding of the economic and technical background of the Free / Open Source Software movement (FOSS) is essential for its effective use. The course takes students through the historyand current status of the FOSS world, and starts them exploring it, by connecting their personalexperiences with corresponding FOSS projects. Students will experience finding and using Open SourceSoftware projects.

Learning Outcomes:

- Differentiate between Open Source and Proprietary software and Licensing.
- Recognize the applications, benefits and features of Open-Source Technologies
- Gain knowledge to start, manage open-source projects.

Course Code	Course Title	Credits	Lectures /Week
USCS105	**Discrete Mathematics**	**2**	**3**

About the Course:

Discrete Mathematics provides an essential foundation for virtually every area of Computer Science. The problem-solving techniques honed in Discrete Mathematics are necessary for writing complicated software. Discrete mathematics also builds the gateway to advanced courses in Mathematical Sciences, Data Science, Machine Learning, Software Engineering, etc.

Learning Outcomes:

After successful completion of this course, learners would be able to:

- Define mathematical structures (relations, functions, graphs) and use them to model real life situations.
- Understand, construct and solve simple mathematical problems.
- Solve puzzles based on counting principles.
- Provide basic knowledge about models of automata theory and the corresponding formal languages.
- Develop an attitude to solve problems based on graphs and trees, which are widely used in software.

Course Code	Course Title	Credits	Lectures /Week
USCS106	**Descriptive Statistics**	**2**	**3**

About the Course:
This course is designed to provide learners with an understanding of the data and to develop an understanding of the quantitative techniques from Statistics. It also provides the knowledge of different statistical tools used for primary statistical analysis of data.

Learning Outcomes:
After successful completion of this course, learners would be able to

1. Organize, manage and present data.
2. Analyze Statistical data using measures of central tendency and dispersion.
3. Analyze Statistical data using basics techniques of R.
4. Study the relationship between variables using techniques of correlation and regression.

Course Code	Course Title	Credits	Lectures /Week
USCS107	**Soft Skills**	**2**	**3**

About the Course:
To help learners develop their soft skills and develop their personality along with technical skills. Focuson various communication enhancements along with academic and professional ethics.

Learning Outcomes:

- Learners will be able to understand the importance and types soft skills
- Learners will develop skills for Academic and Professional Presentations.
- Learners will able to understand Leadership Qualities and Ethics.
- Ability to understand the importance of stress management in their academic & professionallife.

Semester - II

Course Code	Course Title	Credits	Lectures /Week
USCS201	**Design & Analysis of Algorithms**	**2**	**3**

About the Course:
The course covers the concepts of - (i) calculating complexity of algorithms, (ii) the essential operations like searching, sorting, selection, pattern matching & recursion, and (iii) various algorithmic strategies like greedy, divide-n-conquer, dynamic programming, backtracking and implementations ofall these on basic data structures like array, list and stack.

Learning Outcomes:

After successful completion of this course, students would be able to

- Students should be able to understand and evaluate efficiency of the programs that they write based on performance of the algorithms used.
- Students should be able to appreciate the use of various data structures as per need
- To select, decide and apply appropriate design principle by understanding the requirements ofany real life problems

Course Code	Course Title	Credits	Lectures /Week
USCS202	**Advanced Python Programming**	**2**	**3**

About the Course:

This course aims to explore and enable learners to master the skills of advanced topics in Python Programming. It helps learners develops advanced skills such as working with databases, matching patterns, implementing threads and exception handling and GUI in Python. It also highlights and why Python is a useful scripting language for all developers.

Learning Outcomes:

After successful completion of this course, students would be able to

- Ability to implement OOP concepts in Python including Inheritance and Polymorphism
- Ability to work with files and perform operations on it using Python.
- Ability to implement regular expression and concept of threads for developing efficient program
- Ability to implement exception handling in Python applications for error handling.
- Knowledge of working with databases, designing GUI in Python and implement networking in Python

Course Code	Course Title	Credits	Lectures /Week
USCS203	**Introduction to OOPs using C++**	**2**	**3**

About the Course:

The course aims to introduce a new programming paradigm called Object Oriented Programming. This will be covered using C++ programming language. C++ is a versatile programming language, which supports a variety of programming styles, including procedural, object-oriented, and functional programming. This makes C++ powerful as well as flexible. It can be used to develop software such as operating systems, databases, and compilers.

Learning Outcomes:
After successful completion of this course, students would be able to

- Work with numeric, character and textual data and arrays.
- Understand the importance of OOP approach over procedural language.
- Understand how to model classes and relationships using UML.
- Apply the concepts of OOPS like encapsulation, inheritance and polymorphism.
- Handle basic file operations.

Course Code	Course Title	Credits	Lectures /Week
USCS204	**Database Systems**	**2**	**3**

About the Course:
The course introduces the core principles and techniques required in the design and implementation of database systems. It includes ER Model, Normalization, Relational Model, and Relational Algebra. It also provides students with theoretical knowledge and practical skills of creating and manipulating data with an interactive query language (MySQL). It also provide student knowledge and importance of data protection.

Learning Outcomes:
After successful completion of this course, students would be able to

- To appreciate the importance of database design.
- Analyze database requirements and determine the entities involved in the system and their relationship to one another.
- Write simple queries to MySQL related to String, Maths and Date Functions.
- Create tables and insert/update/delete data, and query data in a relational DBMS using MySQL commands.
- Understand the normalization and its role in the database design process.
- Handle data permissions.
- Create indexes and understands the role of Indexes in optimization search.

Course Code	Course Title	Credits	Lectures /Week
USCS205	**Calculus**	**2**	**3**

About the Course:
Calculus is a branch of mathematics that involves the study of rates of change. In Computer Science, Calculus is used in Machine Learning, Data Mining, Scientific Computing, Image Processing, and creating the graphics and physics engines for video games, including the 3D visuals for simulations.

Learning Outcomes:

After successful completion of this course, learners would be able to:

- Develop mathematical skills and enhance thinking power of learners.
- Understand mathematical concepts like limit, continuity, derivative, integration of functions, partial derivatives.
- Appreciate real world applications which uses the learned concepts.
- Skill to formulate a problem through Mathematical modelling and simulation.

Course Code	Course Title	Credits	Lectures /Week
USCS206	**Statistical Methods**	**2**	**3**

About the Course:

This course introduces the key concepts in probability, conditional probabilities and distribution theory, including probability laws, random variables, expectation and variance, functions of random variables and its probability distributions. Emphasis is placed on theoretical understanding combined with problem solving using various statistical inferential techniques.

Learning Outcomes:

After successful completion of this course, learners would be able to

- Calculate probability, conditional probability and independence.
- Apply the given discrete and continuous distributions whenever necessary.
- Define null hypothesis, alternative hypothesis, level of significance, test statistic and p value.
- Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases.
- Apply non-parametric test whenever necessary.
- Conduct and interpret one-way and two-way ANOVA.

Course Code	Course Title	Credits	Lectures /Week
USCS207	**E-Commerce & Digital Marketing**	**2**	**3**

About the Course:

This course introduces the fundamental concepts of e-commerce, its types, the various legal and ethical issues of e-commerce and different e-commerce applications. The course also aims to introduce basic principles and types of digital marketing and web and Google analytics

Learning Outcomes:
After successful completion of this course, students would be able to

- Understand the core concepts of E-Commerce.
- Understand the various online payment techniques
- Understand the core concepts of digital marketing and the role of digital marketing in business.
- Apply digital marketing strategies to increase sales and growth of business
- Apply digital marketing through different channels and platforms
- Understand the significance of Web Analytics and Google Analytics and apply the same.

S.Y.B.Sc (Computer Science)

Outcome of Subjects

SYBSc CS Semester III Course Outcome

Name of the subject	Outcome
Principles of Operating Systems	Students would be able to : 1. Work with any type of operating system. 2. Handle threads, processes, process synchronization. 3. Implement CPU scheduling algorithms. 4. Understand the background role of memory management. 5. Design files system.
Linear Algebra	Students would be able to 1. Appreciate the relevance and applications of Linear Algebra in the field of Computer Science. 2. Understand the concepts through program implementation. 3. Instill a computational thinking while learning linear algebra. 4. Express clear understanding of the concept of a solution to a system of equations. 5. Find eigenvalues and corresponding eigenvectors for a square matrix.
Data Structures	Students would be able to 1. Create different types of data structures. 2. Understand which data structure to be used based on the type of the problem. 3. Apply combined knowledge of algorithms and data structures to write highly effective programs in various domains.
Advanced Database Concepts	Students would be able to 1. Master concepts of stored procedure, functions, cursors and triggers and its use. 2. Learn about using PL/SQL for data management. 3. Use efficiently Collections and records. 4. Understand concepts and implementations of transaction management and crash recovery.
Java based Application Development	Students would be able to 1. Design basic application in java using Graphical User Interface. 2. The learner will be able to develop applications using swings. 3. The learner will be able to develop web based applications using servlet and jsp 4. The learner will be able to connect databases with java through

	5. The learner will be able to perform programs using JSON objects
Web Technologies	Students would be able to: 1. Design valid, well-formed, scalable, and meaningful pages using emerging technologies. 2. Understand the various platforms, devices, display resolutions, viewports, and browsers that render websites. 3. Develop and implement client-side and server-side scripting language programs. 4. Develop and implement Database Driven Websites. 5. Design and apply XML to create a markup language for data and document centric applications.
Green Technologies	Students would be able to: 1. Explain drivers and dimensions of change for Green Technology 2. Appreciate Virtualization; smart meters and optimization in achieving green IT 3. Gain knowledge about green assets, green processes, and green enterprise architecture 4. ISO 14001 and related standards for Audit for Green Compliance

Semester IV

Name of the subject	**Outcome**
Theory of Computation	Students would be able to: 1. Understand Grammar and Languages 2. Learn about Automata theory and its application in Language Design 3. Learn about Turing Machines and Pushdown Automata 4. Understand Linear Bound Automata and its applications
Computer Networks	Students would be able to: 1. Learn basic networking concepts and layered architecture. 2. Understand the concepts of networking, which are important for them to be known as a „networking professionals“.
Software Engineering	Students would be able to: 1. Plan a software engineering process life cycle, including the specification, design, implementation, and testing of software systems that meet specification, performance, maintenance and quality requirements. 2. Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology. 3. Know how to develop the code from the design and effectively apply relevant standards and perform testing, and quality management and practice. 4. Able to use modern engineering tools necessary for software project management, time management and software reuse.
IoT Technologies	Students would be able to 1. Understand SoC and IoT 2. Use different types of IoT Platforms and interfaces 3. Understand and implement an idea of various types of applications built using IoT

Android Application Development	Students would be able to: 1. Build useful mobile applications using Kotlin language on Android. 2. Install and configure Android Studio for application development. 3. Master basic to intermediate concepts of Kotlin required for mobile application development. 4. Use built-in widgets and components, work with the database to store data. 5. Master key Android programming concepts and deploy the application on Google Play
Advanced Application Development	Students would be able to: 1. Store the data in NoSQL, document-oriented MongoDB database that brings performance and scalability. 2. Use Node.js and Express Framework for building fast, scalable network applications. 3. Use AngularJS framework that offers declarative, two-way data binding for web applications. 4. Integrate the front-end and back-end components of the MEAN stack. 5. Develop robust mobile applications using Flutter.
Research Methodology	Students would be able to: 1. Define research, formulate problem and describe the research process and research methods. 2. Understand and apply basic research methods including research design, data analysis and interpretation. 3. Understand ethical issues in research, write research report, research paper and publish the paper.

T.Y.B.Sc (Computer Science)

Outcome of Subjects Semester V

Name of the subject	Outcome
Artificial Intelligence	Student will understand concept of AI and different search algorithms used for solving problems
Software Testing and Quality Assurance	Student will Understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software. Design SQA activities,SQA strategy, formal technical review report for software quality control and assurance.
Information and Network Security	In this course student will able to Understand a variety of generic security threats and vulnerabilities, and identify &analyze particular security problems for a given application. Understand various protocols for network security to protect against the threats in a network
Web Services	Student will understand the details of web services technologies like SOAP, WSDL, and UDDI. To learn how to design, implement and deploy web service client and server.

Game Programming	Student will study Graphics and gamming concepts with present working style of developers where everything remains on internet and they need to review it, understand it, be a part of community.

T.Y.B.Sc (Computer Science)

Outcome of Subjects Semester VI

Name of the subject	Outcome
Cloud Computing	Student will study the comprehensive and in-depth knowledge of Cloud Computing concepts, technologies, architecture, implantations and applications.
Cyber Forensics	Student will understand the procedures for identification, preservation, and extraction of electronic evidence, auditing and investigation of network and host systemintrusions, analysis and documentation of information gathered
Information Retrieval	In this course student will be able to understand the field of information retrievaland its relationship to search engines. It will give the learner an understanding to apply information retrieval models
Data Science	The students should be able to understand & comprehend the problem and shouldbe able to define suitable statistical method to be adopted.
Ethical Hacking	Student will be able to identify security vulnerabilities and weaknesses in the target applications. They will also know to test and exploit systems using various tools andunderstand the impact of hacking in real time machines.

Department of Management Studies (BMS)

Programme outcome:-

The main aim of BMS course is to impart management skills and knowledge among students. To impart this knowledge, the academic program utilizes both classroom lectures and practical training. Businesses and Organizations across the world need skilled managers to take care of their daily operations. Managers are the ones who coordinate and manage the following things – human resources, finance, operations, decision-making, material resources, marketing etc.

Program specific outcome:-

1. Acquire knowledge about management practices which facilitate them to become effective professionals.
2. Be capable to pursue higher studies in diverse fields of Management such as Business Administration, Human Resource Management, Marketing and Finance.
3. Be adequately trained to be entrepreneurs and communicate effectively.
4. Develop a positive attitude towards lifelong learning and research.
5. Acquire the required skills to develop business models and be responsible global citizens with cross-cultural competent behavior and ethical values.

BMS department of our college offers all three specializations offered by University of Mumbai from second year. They are as follows:
Other Information (if any)

- **HUMAN RESOURSE SPECIALIZATION**

Students learn to develop, implement, and evaluate employee orientation, training, and development programs. Facilitate and support effective employee and labour relations in both non-union and union environments. Research and support the development and communication of the organization's total compensation plan.

- **FINANCE SPECIALIZATION**

The ***finance specialization*** in a business administration degree program introduces students to ***financial*** literacy, money management, and accounting principles. Students acquire knowledge regarding finance, various models and techniques and trading, clearing and settlement mechanism in market.

- **MARKETING SPECIALIZATION**

Students understand distinctive features of various marketing activities, New trends and ways for marketing, International marketing trends and working.

FYBMS		
SR. NO.	**COURSE**	**OUTCOME**
1	**Introduction to Financial Accounts**	• To introduce the basic theory, concepts and practice of financial accounting and to enable students to understand information contained in the published financial statementsof companies and other organizations.
2	**Business Law**	• Demonstrate an understanding of the Legal Environment ofBusiness. • Apply basic legal knowledge to business transactions. • Communicate effectively using standard business and legalterminology.
3	**Foundation of Human Skills**	To get knowledge about: • Human beings, their personalities, environment, organizational power, politics, change and how to deal withthem. • Generating the team and team building as well as team work • Leadership qualities and motivating factors
4	**Business Statistics**	To get knowledge about: • The ability to interpret statistical analysis tools commonlyused in the workplace; • The ability to critically evaluate a standard business report including the graphics, probability statements and resultantcommentary; and, • Use of Excel for basic data manipulation and simplestatistical and graphical analysis

5	**Foundation Course-I**	To get knowledge about: • Nature of Indian Society • The gender inequality in society • Diversity As difference and disparity as inequality. • Philosophy of the constitution of India.
6	**Business Economics-I**	• Apply the concept of opportunity cost • Employ marginal analysis for decision making • Analyze operations of markets under varying competitive conditions • Analyze causes and consequences of unemployment, inflation and economic growth.
7	**Business Communication- I**	Students are expected to be able to demonstrate a good understanding of: • effective business writing • effective business communications • research approaches and information collection • developing and delivering effective presentations • effective interpersonal communications
	SYBMS	
SR.NO.	**COURSE**	**OUTCOME**
1	**Business Planning & Entrepreneurial Management**	• Students will be able to define, identify and/or apply the principles of entrepreneurial and family business. • Students will be able to define, identify and/or apply the principles of viability of businesses, new business proposals, and opportunities within existing businesses. • Students will be able to define, identify and/or apply the principles of entrepreneurial management and growth through strategic plans, consulting projects and/or implementing their own businesses.
2	**Information Technology in Business Management-I**	• Design, document and develop robust, extensible and highly maintainable data-intensive applications using cutting edge technologies tailored to the specific needs of any business scenario. • Explain and apply the core aspects of information technology principles and tools, and manage their implementation in a business context
3	**Accounting for Managerial Decisions**	• Understand the utility of Ratio Analysis, Financial Statements and Cash Flow Analysis in any organization. • Comprehend different contemporary issues in Management Accounting and Reports & Reporting needs & Reporting Levels in an organization.
4	**Strategic Management**	• Identify the forces impacting on corporate and business strategies. • Critically aware of factors involved in strategy making. • Assess the resources and constraints for strategy making in a business context.

5	**Foundation Course-IV**	• Students should be able to identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past. • Students should be able to write analytically in a variety of formats, including essays, research papers, reflective writing, and critical reviews of secondary sources.
• **HR SPECIALIZATION**		
1	**Organizational Behavior& HRM**	• Demonstrate the applicability of the concept of organizational behavior to understand the behavior of people in the organization. • Demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization.
2	**Recruitment & Selection**	• Helps to create a talent pool of potential candidates for the benefits of the organization. • To increases the pool of job seeking candidates at minimum cost.
		• It helps to increase the success rate of selection process by decreasing the no of visits qualified or over qualified job applicants.
• **FINANCE SPECIALIZATION**		
1	**Corporate Finance**	• Identify the key themes in corporate finance. • Explain the role of finance in an organization. • Analyze the relationship between strategic decision making and corporate financing decisions.
2	**Introduction to Cost Accounting**	• Be able to identify the dynamics of human behavior and the basic factors that influence the consumers‟ decision process. • Be able to demonstrate how concepts may be applied to marketing strategy
• **MARKETING SPECIALIZATION**		
1	**Advertising**	• After completion of the requirements for this course, students will be able to: appreciate the ways that communication through advertising influences and persuades consumers; • Discuss the role of the advertising agency and its client relationships. • Discuss the decisions which need to be made in budgeting and planning for promotion;
2	**Consumer Behavior**	• Be able to identify the dynamics of human behavior and the basic factors that influence the consumers‟ decision process. • Be able to demonstrate how concepts may be applied to marketing strategy

TYBMS	
COURSE	**OUTCOME**

	• **CORECOURSE**	
1	**Logistics and Supply Chain Management**	• Students are able to describe major logistics functions and activities. Differentiate logistics and supply chain management. • Describe alternative ways to organize for supply chain management. • Describe methods of inventory planning. • Technological changes and its impact on logistics and supply chain management. • Compare modes of transportation and related policies. Outline computer and supply chain security measures.
2	**Corporate Communication & PR**	• Understand of the concepts of corporate communication and public relations. • Introduce the various elements of corporate communication and consider their roles in managing organizations. • Examine how various elements of corporate communication must be coordinated to communicate effectively. • Develop critical understanding of the different practices associated with corporate communication.
	• **FINANCE SPECIALIZATION**	
1	**Investment Analysis and Portfolio Management**	• The learners are well acquainted with various concepts of finance. • Students understood the terms which are often confronted while reading newspaper, magazines etc. for better correlation with thepractical world. • Learners understood various models and techniques of security and portfolio analysis.
2	**Risk Management**	• Familiarize the student with the fundamental aspects of risk management and control. • Give a comprehensive overview of risk governance and assurance with special reference to insurance sector. • Introduce the basic concepts, functions, process, techniques of risk management.
3	**Financial Accounting**	Learners understood various transactions of foreign currency, Accounting in relation to Purchase and sale, Computation and treatment of exchange difference. ● Learners familiarized with relevant provisions of Companies Act related preparation of Final Accounts of the companies as per AS 1 ● Learners acquainted with liability of underwriter in respect of underwriting contracts ● Learners familiarized with relevant provisions of Companies Act relating to Investment Accounting as per AS 13 ● Learners familiarized with ethical behavior in the accounting profession.

4	**Direct Tax**	Students gained the knowledge of Income Tax act 1961. • Students understood the definitions under income tax act 1961. • Students able to calculate income from Salary, House property, Capital Gain, Business and Profession, Other Sources. • Students know the various exemptions available under section10. • Students learn and apply deductions under section 80 while calculating net taxable income. • Students able to compute total income of assess.
• **MARKETING SPECIALIZATION**		
	Service Marketing	• Understand distinctive features of services and key elements in services marketing. • Provide insight into ways to improve service quality and productivity. • Understand marketing of different services in Indian context**.** • E-Commerce and Digital Marketing.
	Sales and Distribution Management	• Develop understanding of the sales & distribution processes in organizations. • Get familiarized with concepts, approaches and the practical aspects of the key decision. • Making variables in sales management and distribution channel management.
	Customer Relationship Management	• Learner understood concept of Customer Relationship Management (CRM) and implementation of Customer Relationship Management. • Students get insight into CRM marketing initiatives, customer service and designing CRM strategy. • Learner understood new trends in CRM, challenges and opportunities for organizations.

	E – Commerce & Digital Marketing	Understand the E-Commerce, Myths and Impact of E-Commerce and Trends of E-commerce in various sectors. ● Get familiarized with concepts, Models and the applications of E-Business. ● Provide insight about Issues relating to Privacy and security in E-Business, Different Payment Systems and E-Commerce law. ● Understand the Digital Marketing on various social media platforms, Promoting Web traffic and latest development and strategies in digital Marketing.
• **HR SPECIALIZATION**		

	Industrial Relation	• Demonstrate descriptive knowledge of the field of industrial relations. • Apply the essential concepts of industrial relations and their interrelationship at the personal, organizational and national levels. • Recognize and consider the social, historical and equity issues within industrial relations. • Investigate solutions to industrial relations problems based on research and assessment of current practices. • Communicate your knowledge of industrial relations in both written and verbal formats reactive to both audience and purpose.
	Performance Management	• The rating distribution – this will help the management to reward good performers and recognize their efforts, whereas it serves as a warning to poor performers to improve their performance. • The final rating for employees is an outcome of the performance appraisal. This can help to detail out the compensation of the employees. • An employee's competency gaps can be identified and areas of improvement in the performance can be suggested. Managers can take the necessary steps to help the employees improve on those areas. This will lead to growth of employees as well as organizational growth. • Identification of high potential employees. This can help in succession planning of an organization. High potential employees can be nurtured and can turn out future leaders. • The necessary training requirements of employees can be an outcome of the performance appraisals. This can be a very valuable input to the training department, who can plan their training calendar based on that.
	Strategic HRM	• Contribute to the development, implementation, and evaluation of employee recruitment, selection, and retention plans and processes. • Develop, implement, and evaluate employee orientation, training, and development programs. • Collaborate with others, in the development, implementation, and evaluation of organizational and health and safety policies and practices. • Research and analyze information needs and apply current and emerging information technologies to support the human resource's function. • Develop, implement, and evaluate organizational development strategies aimed at promoting organizational effectiveness.

BAMMC (BA in Multimedia and Mass Communication)

BAMMC Programme Outcome

1. The program considers media industries and relationship to culture and society, and the understanding of

hoe communication works.

2. Students would demonstrate the ability to apply rhetorical principles in a variety of creative, cinematic, organizational, professional and journalistic venues.

3. Learners will understand mass media as a system of interrelated forces, including historical foundations, technological advances, economic dynamics, regulatory constraints, and ethical concerns.

Programme Specific Outcome

1. The program prepares students for a wide variety of careers in business and industry, advertising, public relations and journalism or advanced study.

2. The program will equip the learners with professional skills essential for making career in Entertainment industry, Cinema, Television, OTT Platform, social media platform, etc.

3. This program also gives them an improved sense of self confidence and self - efficacy and an awareness oftheir responsibilities as professional in their field.

4. Learners will be able to create and design emerging media products, including blogs, digital audio, digital video, social media, digital photography and multimedia.

This programme will also give them an improved sense of self-confidence and self- efficacy and an awareness of their responsibilities as professionals in their field

5. Learners will be able to create and design emerging media products, including blogs, digital audio, digital video, social media, digital photography, and multimedia. They will be better equipped to grasp the complex relationship between communication/media theories and a diverse set of individual, social, and professional practices.

6. Learners will understand the underlying philosophical assumptions of, and be able to apply, communication research methods to address a range of media texts and audiences, production and technological practices, and relevant social issues.

7. Learners will comprehend the foundations, process, and practices of writing for and about the media, and demonstrate proficiency in writing across platforms.

8. Learners will be able to conceptualize, design, and produce one or more works in media based on effective principles and practices of media aesthetics for a target audience. Also learners will acquire the knowledge and skills required to pursue a career in the specialization of their choice.

Course outcome SEM I

Course Name	Outcome
1. Effective Communication I	• To make the students aware of functional and operational useof language in media. • To equip or enhance students with structural and analytical reading, writing and thinking skills. • To introduce key concepts of communications.

2. Foundation Course	• To introduce students to the overview of the Indian Society. • To help them understand the constitution of India.
	• To acquaint them with the socio-political problems of India.
3.Visual Communication	• To provide students with tools that would help them visualize andcommunicate. • Understanding Visual communication as part of Mass Communication • To acquire basic knowledge to be able to carry out a projectin the field of visual communication • To acquire basic knowledge in theories and languages of VisualCommunication • The ability to understand and analyze visual communication from acritical perspective.
4. Fundamental of Mass Communication	• To introduce students to the history, evolution and the development of Mass Communication in the world with special reference to India. • To study the evolution of Mass Media as an important social institution. • To understand the development of Mass Communication models. • To develop a critical understanding of Mass Media. • To understand the concept of New Media and Media Convergence and its implications.
5. Current Affairs	• To provide learners with overview on current developments in various fields. • To generate interest among the learners about burning issues covered in the media • To equip them with basic understanding of politics, economics, environment and technology so that studentscan grasp the relevance of related news. • Twenty minutes of newspaper reading and discussion is mandatory in every lecture.
6. History of Media	• Learner will be able to understand Media history through key eventsin the cultural history • To enable the learner to understand the major developments inmedia history. • To understand the history and role of professionals in shapingcommunications. • To understand the values that shaped and continues to influenceIndian mass media. • Learner will develop the ability to think and analyze about media. • To sharpen the reading, writing, speaking and listening skills that will help the students to understand the development of Media.

Course outcome SEM II

Course Name	**Outcome**

1. Introduction to Journalism	• To help media students to acquaint themselves with an influential medium of journalism that holds the key to opinion formation & to create awareness.
2. Effective Communication II	• To make the students aware of use of language in mediaand organization. • To equip or enhance students with structural andanalytical reading, writing and thinking skills. • To introduce key concepts of communications.
3. Foundation Course	• To introduce students to the overview of the Indian Society. • To help them understand the constitution of India. • To acquaint them with the socio-political problems ofIndia.
4. Content Writing	• To provide students with tools that would help them communicate effectively. • Understanding crisp writing as part of Mass Communication • The ability to draw the essence of situations and developclarity of thought.
5. Introduction to Advertising	• To provide the students with basic understanding ofadvertising, growth, importance and types. • To understand an effective advertisement campaigns, tools,models etc. • To comprehend the role of advertising , various departments, careers and creativity • To provide students with various advertising trends, andfuture.
6. Media, Gender & Culture	• To discuss the significance of culture and the mediaindustry. • To understand the association between the media, genderand culture in the society. • To stress on the changing perspectives of media, genderand culture in the globalizedera.

SYBAMMC Course programme

SEMESTER III

SYBAMMC - Course outcome SEM III

Course Name	Outcome
1.Electronic Media-I	1. To make the students acquainted with working of the two powerful media; i.e. radio and television. The content is useful for both advertising and journalism students in order to further their careers in their respective fields.

2.Corporate Communication and public relation	1. To provide the students with basic understanding of the concepts ofcorporate communication and public relations. 2. To introduce the various elements of corporate communication andconsider their roles in managing media organizations. 3. To examine how various elements of corporate communication must becoordinated to communicate effectively in today"s competitive world. 4. To develop critical understanding of the different practices associated withcorporate communication with the latest trends and social media tools.
3. Introduction toMedia Studies	1. To provide an understanding of media theories 2. To understand the relationship of media with culture and society 3. To understand Media Studies in the context of trends in Global Media.
4. Introduction to Photography	1. To introduce to media learner the ability of image into effective communication. 2. To help the learner understand that media photography isa language of visual communication and is far beyond justpoint and shoot fun moments. 3. To practice how picture speaks thousand words 4.by enlightening the learneron how. To develop the base of visualization among learners in usingpictures in practical projects. 4. To help learner work on given theme or the subject into making arelevant picture or photo feature.
5.Film Communication-I	1. To inculcate liking and understanding of good cinema. 2. To make students aware with a brief history of movies; the major 3. Cinema movements. 4. Understanding the power of visuals and sound and the ability to 5. Make use of them in effective communication. 6. Insight into film techniques and aesthetics.
6. Computer Multi media- I	1. To help learners make media industry ready. This will help learners to be aware of the minimum requirement of the software when stepping out in the industry. 2. To introduce the media software to make the learners understand what goes behind the scene and help them choose their stream. 3. To prepare learners skilled enough for independency during project papers in TY semester VI. 4. To help learners work on small scale projects during the academic period.

SYBAMMC - Course outcome

SEM IV

Course Name	Outcome
1. Electronic Media-II	1. To make the students acquainted with working of the two powerful media; i.e. radio and television. 2.The content is useful for both advertising and journalism studentsin order to further their careers in their respective fields.

2. Writing for the Media	1. Provide the ability to understand writing styles that fit various media platforms. 2. It would help the learner acquire information gathering skills and techniques. 3. On completion of this course, students will be able to understand similarities and differences in writing for all formsof media including internet and digital. 4. The learner will gather knowledge of different news and copy formats along with appropriate style-sheets and layout. 5. The learner will imbibe the importance of writing clearly, precisely and accurately for different types of audiences 6. Provide acquire basic proficiency in proof-reading and editing.
3. Media Ethics and Laws	1. To provide the learners with an understanding of laws those impact the media.
	2. To sensitize them towards social and ethical responsibility of media.
4. Mass Media Research	1. To introduce students to debates in Research approaches and equip them with tools to carryon research 2. To understand the scope and techniques of media research, their utility and limitations.
5. Film Communication-II	1. Awareness of cinema of different regions. 2. Understand the contribution of cinema in society. 3. How to make technically and grammatically good films. 4. From making to marketing of films. 5. Economic aspects of film. 6. Careers in films.
6. Computer Multimedia -II	1. To help learner be media industry ready. This will help learners to be aware of the minimum requirement of the software when stepping in the industry. 2. To introduce the media soft wares to make the learner understand what goes behind the scene and help them choose their stream. 3. To prepare learner skilled enough for independency during project papersin TY sem.VI. 4. To help learners work on small scale projects during the academic period.

TYBAMMC (ADVERTISING)

Course Name	Outcome
1. **COPYWRITING**	- To familiarize the students with the concept of copywriting assailing through writing -To learn the process of creating original, strategic, compelling copy forvarious mediums - To train students to generate, develop and express ideas effectively To learn the rudimentary techniques of advertising headline and body copywriting, the economy of words and thought peculiar to this type of writing, and the necessity of creative thinking in written expression.

2. ADVERTISING & MARKETING RESEARCH	-The course is designed to inculcate the analytical abilities and researchskills among the students. -To understand research methodologies – Qualitative Vs Quantitative -To discuss the foundations of Research and audience analysisthat is imperative to successful advertising. -To understand the scope and techniques of Advertising and Marketingresearch, and their utility.
3.**GLOBALIZATION AND INTERNATIONAL ADVERTISING**	- To introduce to media students about the concept of Globalizationand its impact on Global Media and International Advertising. -To help the student understand and practice Global Communication. -To introduce to media students about concept and process of international advertising. -To help students formulate international advertising campaign by identifying strategies, barriers, challenges and steps to create international advertising. **- Career opportunities: As** Global Brand Managers, Global Content Writer for Ads and Ad Campaigns, Global Market Communicators in Digital Media, career in ad agencies for Global Market.
4. BRAND BUILDING	- To understand the awareness and growing importance of Brand Building - To know how to build, sustain and grow brands - To know the various new way of building brands - To know about the global perspective of brand building.
5.**AGENCY MANAGEMENT**	-To acquaint the students with concepts, techniques and give experience in the application of concepts for developing an effective advertising campaign. -How an ad agency works and what opportunities exist -To inculcate competencies thereby enabling to undertake professional work with advertising industry.
6. **Consumer Behaviour**	-To understand the sociological & psychological perspective of consumer behaviour. -To introduce students to the complexities of consumer behaviour, its importance in marketing & advertising. To sensitize students to the changing trends in consumerbehaviour.

TYBAMMC

Course outcome - SEM VI - (Advertising)

Course Name	Outcome
1. **DIGITAL MEDIA**	- Understand digital marketing platform -Understand the key goals and stages of digital campaigns -Understand the of use key digital marketing tools -Learn to develop digital marketing plans

2. **ADVERTISING DESIGN**	-Learner shall understand the process of planning &productionof the advertisement. -To highlight the importance of visual language as effective way of communication. -To provide practical training in the field of advertising &make learner industry ready.
3.**ADVERTISING & SALES PROMOTION**	- Students should be able to demonstrate a thorough understanding of the major sales promotion concepts, -Use a framework to make effective sales promotion decisions, and adopt the necessary skills and point of view of an effective sales promotion
4.**RURAL MARKETING & ADVERTISING**	- To introduce to Media students about the concept of Rural Marketing and Rural economy. -To make students to understand about Rural Environment and demography of Rural India. -To help students to understand marketing Mix Strategies for Rural Consumer and Agricultural goods and service. -To develop communication skills in media Students and to understand Rural communication in contemporary society.
5. **ENTERTAINMENT &MEDIA MARKETING**	- Introducing the students to television industry and film industry. -Will make students go through different case studies regarding radio marketing skills, social media marketing skills etc. -Will help to know the impact of media industry on the viewers, understanding its characteristics
6.**TELEVISION PROGRAM PRODUCTION**	-Will help to analyses the cultural impact of television on the audience. -Understating Television Journalism. -Introducing the Contemporary Trends of Television programming to students. -Help the students to gain knowledge regarding the various measurement formats and reporting skills of television.

TYBAMMC- SEM- V - (Journalism)

Course Name	**Outcome**
1. REPORTING	To enable students to become Reporters which is supposed to be a prerequisite while entering into the field of Journalism. To make them understand basic ethos of the news and news-gathering. To prepare them to write or present the copy in the format of news. To develop nose for news. To train them to acquire the skills of news-gathering with traditional as well.
2. JOURNALISM INVESTIGATIVE	Understand the role of investigative reporting in modern journalism To learn to conduct investigative research in an ethicalmanner. To create and write excellent investigative stories for media.

	To acquire advanced investigative journalistic skills Learner will acquire the ability to understand and analyze the key areas of investigative journalism even withlimited resources.
3. Features and Writing forSocial Justice	To provide students with technique of narration and storytelling To share the art of developing a story idea To acquaint and sensitize them through assignments to theissues of deprivation around us and using writing as a toolfor social justice
4. JOURNALISM and PUBLICOPINION	To understand the role of media in influencing andimpacting public opinion. To analyze the formation of public opinion through digitaland social media. To analyze the impact of the media on publicopinion on socio-economic issues. To make students aware of theoretical framework ofresearch on media and society.
5. GLOBAL MEDIA and CONFLICT RESOLUTION	To help students understand the difference inthe role and structure of the media across the globe. To develop an understanding of the hold of media conglomerates and the issues of cultural differences To help students appreciate the potential of mediain resolving conflicts.
6. MEDIA LAWS and ETHICS	To help students understand the laws that impact themedia To develop an understanding of the ethical responsibilities of the media To help students appreciate the challenges of fake news and misinformation in a new changing ecosystemof news and information.

TYBMM SEM-VI	**JOURNALISM**
Course	**Outcome**
1. DIGITAL MEDIA	• Understand digital marketing platform • Understand the key goals and stages of digital campaigns Understand the of use key digital marketing tools Learn to develop digital marketing plans
NEWSPAPER and MAGAZINE DESIGN	• The learner is required to understand the process of print media production since the content collection to the final print ready layout. • This includes news weightage as well as article relevancy and the visual treatment to the text block. The appearance of the various text blocks matters in layout. • Learner should be able to reconstruct headlines suitable for the space keeping the core meaning and intensity intact. • Learners are expected to develop software skills to be employable in industry. • Learners shall develop the aesthetic vision and understand the discipline behind a layout.

3. CONTEMPORARY ISSUES	• To stress the importance of social economic political aspects of the societyas a media professional. • To understand the role of media as a strategy to create awareness on various issues and mobilize to bring social progress.
4. MAGAZINE JOURNALISM	• This course introduces the students to the nuances of magazine journalism,feature writing and Reviews.
5. FAKE NEWS and FACT CHECKING	• To give media students the understanding of the differentiation between real news and fake news. • To make media students aware of information disorder. • To give students a thorough knowledge of information literacy and media. • To give students a hand on knowledge on factchecking. • To give students a practical overview of social media verification. Career Opportunities: Investigative Journalist, Jobs in Media Houses, Google, Internship in International Fact Checking Network, Jobs in Social Media as Fact Checkers
6. TELEVISION JOURNALISM	• To provide students with technique of narration and storytelling • To share the art of developing a story idea • To acquaint and sensitize them through assignments to the issues of deprivation around us andusing writing as a tool for social justice

B.SC (Information Technology)

Program Outcome: The program aims to produce graduates who have been exposed to experiences that will prepare them to address the information processing requirements of organizations.

Program Specific Outcome: Identify information technology related problems, analyze them and design the system or provide the solution for the problem. Communicate effectively in written and oral context with specialized and non-specialized audiences. Apply current technical concepts and practices in the core information technologies of human comp uter interaction, information management, programming, networking, and web systems and technologies.

Course Outcome

Semester-I	
Course Name	**Outcomes**
Imperative Programming	Students will be able to choose appropriate data structures to represent data items in real world problems. They can analyze the time and space complexities of algorithms.
Digital electronics	Students will be able to understand number representation and conversion between different representation in digital electronic circuits and they will be able to analyze logic processes and implement logical operations using combinational logic circuits.

Operating System	Students can Identify use and evaluate the storage management policies with respect to different storage management technologies. They can also describe the important computer system resources and the role of operating system in their management policies and algorithms.
Discrete Mathematics	Students will be able to apply basic counting techniques to solve combinatorial problems. They will gain experience in using various techniques of mathematical induction (weak, strong and structural induction) to prove simple mathematical properties of a variety of discrete structures.
Communication Skills	Students will be able to understand and apply knowledge of human communication and language processes as they occur across various contexts, e.g., interpersonal, intrapersonal, small group, organizational, media, gender, family, intercultural communication, technologically mediated communication, etc. from multiple perspectives.

Semester-II	
Course Name	**Outcomes**
Object Oriented Programming	The students will gain knowledge about Object Oriented Programming through C++. They can make their own Applications/Projects using C++ and can be deputed as a C++ programmer in IT companies.
Microprocessor Architecture	Students will be able to describe basic organization of computer and the architecture of 8085 microprocessor and can implement assembly language program for given task for 8085 microprocessors.
Web Programming	Students are able to develop a dynamic webpage by the use of java script and HTML. Students will be able to write a well-formed / valid XML document
Numerical and Statistical Methods	Students can use a range of standard numerical and statistical methods to solve problems. They can solve system of linear equations.
Green Computing	Students can use Green IT Strategies and metrics for ICT development and they can Illustrate various green IT services and its roles.

Semester - III	
Course Name	**Outcomes**
Python Programming	CO1: Aware of the variables, expressions, looping and conditions used in Python programming. CO2: Implement functions, strings, lists, tuples and directories CO3: Create GUI forms and add widgets. CO4: Use MySQL to store data.

	CO5: Apply the programming skillset learnt here into various domains by having advance programming skillset of Python and usage of libraries.
Data Structures	CO1: Identify and distinguish data structure classification, data types, their complexities CO2: Implement array, linked list, stack and queue. CO3: Implement trees, various hashing techniques and graph for various applications CO4: Compare various sorting and searching techniques
Computer Networks	CO1: Identify various data communication standards, topologies and terminologies CO2: Describe how signals are used to transfer data and communication aspects between Nodes CO3: Configure IP addresses using TCP/IP protocol suite CO4: Use different application layer protocols
Operating Systems	CO1: Role of Operating System Computer System. CO2: Use the different types of Operating System and their services. CO3: configure process scheduling algorithms and synchronization techniques to achieve better Performance of a computer system. CO4: Apply virtual memory concepts. CO5: Effectively use and manage secondary memory.
Applied Mathematics	CO 1: Solve the matrix operations, identify the linear dependence and independence of a vectors CO 2: Familiar with the various forms and operations of a complex number. CO 3: Find the Laplace transform of a function and Inverse Laplace transform of a function using definition also solve ordinary differential equations using Laplace transform. CO 4: Evaluate the multiple integrals in Cartesian, Polar coordinates, change the order of the integral, CO 5: Apply integration methods to calculate the areas and volumes of solids. CO 6: Evaluate the Beta, Gamma, Differentiation Under integral sign and error functions

Semester-IV	
Course Name	**Outcomes**
Java Programming	CO1: Learn the architecture of Java CO2: Identify data types, control flow, classes, inheritance, exceptions and event handling CO3: Use object-oriented concepts for problem solving real-life applications CO4: Build GUI programs CO5: Create event driven programs using java.

Introduction to Embedded System	CO1: Differentiate between general purpose and embedded systems CO2: Discuss the characteristics and quality attributes of embedded systems CO3: Use different types of sensors for appropriately CO4: Design and develop embedded systems
Computer Oriented Statistical Techniques	CO 1: To calculate and apply measures of central tendencies and measures of dispersion -- grouped and ungrouped data cases. CO 2: To calculate the moments, skewness and kurtosis by various methods. CO 3: How to apply discrete and continuous probability distributions to various business problems. CO 4: Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values CO 5: Apply simple linear regression and correlation model to real life examples
Software Engineering	CO1: Understand software engineering CO2: Apply software engineering principles CO3: Discuss various approaches to verification and validation of software including testing, measurements and estimation of software products CO4: Create software using different software development models
Computer Graphics and Animations	CO 1. Understand the basics of computer graphics, different graphics systems and applications of computer graphics CO 2. Compare various algorithms for scan conversion and filling of basic objects CO 3. Use of geometric transformations on graphics objects and their application in composite form. CO 4. Extract scene with different clipping methods and its transformation to graphics display device. CO 5. Explore projections and visible surface detection techniques for display of 3D scene on 2D screen. CO 6. Render projected objects to naturalize the scene in 2D view and use of illumination models CO 7. Understand the core concepts and mathematical foundations of computer graphics CO 8. Know the fundamental computer graphics algorithms and data structures CO 9. Understand an overview of different modelling approaches and methods CO 10. Apply basic shading and texture mapping techniques CO 11. Understand light interaction with 3D scenes CO 12. Explain the applications, areas, and graphic pipeline, display and hardcopy technologies. CO 13. Apply and compare the algorithms for drawing 2D images also explain aliasing, anti-aliasing and half toning techniques.

	CO 14. Discuss OpenGL application programming Interface and apply it for 2D & 3D computer graphics. CO 15. Analyze and apply clipping algorithms and transformation on 2D images. CO 16. Solve the problems on viewing transformations and explain the projection and hidden surface removal algorithms. CO 17. Apply basic ray tracing algorithm, shading, shadows, curves and surfaces and also solve the problems of curves.
SEMESTER-V	
Course Name	**Outcomes**
Software Project Management	Students can compare and contrast the several existing solutions for research challenge 4. Demonstrate an ability to work in teams and manage the conduct of the research study.
Internet of Things	Students can apply the concepts of IOT and they can design and develop smart city in IOT. They can also analyze and evaluate the data received through sensors in IOT.
Advanced Web Programming	Students can apply three-tier architecture concepts and advanced database techniques in web applications. Students build sites that use session management.
Enterprise Java	Students will be able to identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem an can demonstrate how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.
Linux System Administration	Students will be able to identify the basic Linux general purpose commands; can implement shell scripts and sed. They can also apply and change the ownership and file permissions using advance Unix commands.

Semester-VI	
Course Name	**Outcomes**
Software Quality Assurance	Students will be able to investigate the reason for bugs and analyze the principles in software testing to prevent and remove bugs and can implement various test processes for quality improvement
Security in Computing	Students develop a secure computer network plan. Students evaluate and recognize a problem as being a possible network security threat. Students collect information from Computer network logs.
Business Intelligence	Students can apply BI to solve practical problems -Analyze the problem domain, use the data collected in enterprise apply the appropriate data mining technique, interpret and visualize the results and provide decision support.

Principal of Geographic Information system	Students can apply basic graphic and data visualization concepts such as color theory, symbolization, and use of white space. They can demonstrate organizational skills infile and database management.
IT Service Management	Students will be able to recognize enterprise IT architecture for Information technology and can Describe the importanceof IT enabled services and challenges and can also Identify strategic IT planning for software development.

M.Com (Advanced Accountancy)

M.Com [NEP]

Programme Outcomes

1 To enhance the abilities of learners to develop the concept of Cost and management accounting and its significance in the business

2 To enable the learners to understand, develop and apply the techniques of costing in the decision making in the business corporates

3 To enable the learners in understanding, developing, preparing and presenting the financial report in the business corporates

4To enhance the abilities of learners to develop the objectives of Financial Management

5 To enable the learners to understand, develop and apply the techniques of investment in the financial decision making in the business corporates

6 To enhance the abilities of learners to analyze the financial statements

Course Outcome: -

Advanced Cost and Management Accounting I Credits 4	1. The learner will be able to identify and analyze Cost concepts and understand managerial decision making 2. The learner will be able to understand standard practices associated with Standard Costing and Variance analysis 3. The learner will be able to prepare and present functional budgets at organizational level 4. The learner will be able to identify and analyze practices associated with operating Costing

Direct and Indirect Taxation (Income Tax) Credits 4	1.Acquire in-depth knowledge of direct and indirect tax laws, including income tax, GST, and other relevant regulations. 2. Gain the ability to accurately calculate tax liabilities for various entities, including individuals, partnerships, and corporations. 3. Apply theoretical frameworks to real-world tax scenarios, analyzing the impact of different tax policies on economic behavior.
Advanced Financial Accounting Credits 4	1. Develop the ability to prepare and analyze complex financial statements in compliance with accounting standards and regulations. 2. Enhance the ability to communicate financial information effectively to various stakeholders. 3. These outcomes prepare students for advanced roles in accounting, finance, and related fields, equipping them with the skills necessary to succeed in complex financial environments.
Advanced Trends in Accounting – I Credits 2	1.The learner will be able identify and resolve common issues encountered while using Tally ERP 9, enhancing troubleshooting skills. 2. The learner will be able to generate and interpret financial reports using Tally, enabling informed decision-making based on accurate financial data.
Fundamental Analysis for Corporate Credit 4	1.The learner will be able to interpret and analyse balance sheets, income statements, and cash flow statements to assess a company's performance. 2.The learner would gain the Knowledge of various financial ratios (liquidity, profitability, solvency, and efficiency) and their application in evaluating business performance. 3.It would generate the ability to make informed investment decisions based on financial analysis and market conditions. 4.The learner would: Understand risk management principles and the ability to analyse risks associated with corporate finance. 5.It would develop the skills in preparing financial forecasts and budgets to guide corporate financial planning.
Research Methodology Credit 4	1 To enhance the abilities of learners to undertake research in business & social sciences 2 To enable the learners to understand, develop and apply the fundamental skills in formulating research problems 3 To enable the learners in understanding and developing the most appropriate methodology for their research

	4 To make the learners familiar with the basic statistical tools and techniques applicable for research
Advanced Cost Accounting 4 Credits	1. Learners will be able to understand process costing and techniques applied in industry 2. Learners will be able to identify various cost allocation methods and apply ABC method of costing system 3. Learners will be able to define responsibility center and evaluate performance of company 4. Learners will be able to under different techniques used in strategic cost management
Corporate Finance 4 Credits	1. The learners will be able to identify the scope of financial management in practice. 2. The learners will be able to conceptualize the concept of valuation of securities. 3. The learners will be able to explain the concepts of financial accounting in general. 4. The learners will be able to identify and undertake various managerial decisions required in day-to-day business practices.
Accounting of Housing Society & Charitable Trust Credit 4	1. To define and prepare financial statements as per Maharashtra State Cooperative Societies Act 2. To understand and apply auditing techniques in co- operative sector. 3. To understand concept of charitable trust and differentiate income exempted 4. To understand the accounting process of accounting of charitable trusts
Direct and Indirect Taxation (Goods and Services Tax) - 4 Credits	1.Learners will get an overview of GST, its need and applicability in India and Learners will understand the concept like Scope of Supply, Non-taxable Supply, Composition Scheme etc. 2. Learners will understand in detail about Time, Place and Value of Supply for computation of GST 3. Learners will have be able to calculate ITC, manner of utilization, assessment of tax liability and payment of GST 4. Learners will understand the provisions of GST registration, its procedure, documents needed for registration, cancellation of registration, deemed registration.
Advanced Trends in Accounting - I Credit	1. Learners will be able to prepare financial report and do its analysis. 2. Learners will be able to activate GST masters in Tally and set up GST rate, Update Party GSTIN and updating GST in service ledgers.

Course Outcomes Semester III

Advanced Financial Accounting	Learner will be competent in the accounts of Banking, Insurance and company.
Advanced Cost Accounting	Learner will be proficient to evaluate the cost ofproduct and able to allocation of cost as per the technique of costing
Direct Taxation	Learner will be able to understand the taxationrules and regulations to compute taxable incomes.

Course Outcomes Semester - IV

Corporate Financial Accounting	Learner will be able to draft Annual Reports and compute Goodwill and Valuationof shares.
Indirect Tax- Introduction of GST	Learner will be competent in ascertainment ofGoods and Service Tax.
Financial Management	Learners will be skilled in capital budgeting, working capital and financial management.
Project	The learner will be able to prepare the project onthe Management, Accounting, Costing and Taxation.

M.Sc.(Information Technology)

Programme Outcome:

PO1: Ability to apply the knowledge of Information Technology with recent trends aligned with research and industry.

PO2: Ability to apply IT in the field of Computational Research, Soft Computing, Big Data Analytics, Data Science, Image Processing, Artificial Intelligence, Networking and Cloud Computing.

PO3: Ability to provide socially acceptable technical solutions in the domains of Information Security, Machine Learning, Internet of Things and Embedded System, Infrastructure Services as specializations.

PO4: Ability to apply the knowledge of Intellectual Property Rights, Cyber Laws and Cyber Forensics and various standards in interest of National Security and Integrity along with IT Industry.

PO5: Ability to write effective project reports, research publications and content development and to work in multidisciplinary environment in the context of changing technologies.

Course Outcome:

Title	**Course Code**	**Course Outcome**
Semester-I		
Data Science	**501**	OC1.Apply quantitative modelling and data analysis techniques to the solution of real-world business problems, communicate findings, and effectively present results using data visualization techniques.

		OC2. Recognize and analyse ethical issues in business related to intellectual property, data security, integrity, and privacy. OC3. Apply ethical practices in everyday business activities and make well-reasoned ethical business and data management decisions. OC4. Demonstrate knowledge of statistical data analysis techniques utilized in business decision making. OC5. Apply principles of Data Science to the analysis of business problems. OC6. Use data mining software to solve real-world problems. OC7. Employ cutting edge tools and technologies to analyze Big Data. OC8. Apply algorithms to build machine intelligence. OC9. Demonstrate use of team work, leadership skills, decision making and organization theory.
Soft Computing Techniques	**503**	OC1.Gain a solid understanding of the fundamental concepts underlying soft computing, including the differences between soft computing and traditional hard computing methods. OC2 Familiarize with a variety of soft computing techniques such as fuzzy logic, neural networks, genetic algorithms, swarm intelligence, and probabilistic reasoning. OC3 Apply soft computing techniques to solve real-world problems from various domains such as engineering, finance, healthcare, and more. OC4 Formulate problems in a way that lends itself to the application of soft computing techniques, taking into account the uncertainties and imprecisions present in real-world data. OC5 Understand of how fuzzy logic works and its applications in modelling and decision-making under uncertainty. OC6 Gain knowledge of neural network architectures, training algorithms, and their applications in pattern recognition, regression, and classification tasks. OC7 Understand genetic algorithms, their components, and their use in optimization problems and search spaces. OC8 Familiarize with swarm intelligence algorithms such as ant colony optimization and particle swarm optimization, and their applications in optimization and search problems.
Cloud	**505**	OC1 analyse the Cloud computing setup with its vulnerabilities and

Computing		applications using different architectures. OC2 Design different workflows according to requirements and apply map reduce programming model. OC3 Apply and design suitable Virtualization concept, Cloud Resource Management and design scheduling algorithms. OC4 Create combinatorial auctions for cloud resources and design scheduling algorithms for computing cloud. OC5 Assess cloud Storage systems and Cloud security, the risks involved, its impact and develop cloud application OC6 Broadly educate to know the impact of engineering on legal and societal issues involved in addressing the security issues of cloud computing.
Image Processing	**506c**	OC 1: Understand the relevant aspects of digital image representation and their practical implications. OC 2: Have the ability to design point wise intensity transformations to meet stated specifications. OC 3: Understand 2-D convolution, the 2-D DFT, and have the ability to design systems using these concepts. OC 4: Have a command of basic image restoration techniques. OC 5: Understand the role of alternative color spaces, and the design requirements leading to choices of color space. OC 6: Appreciate the utility of wavelet decompositions and their role in image processing systems. OC 7: Have an understanding of the underlying mechanisms of image compression, and the ability to design systems using standard algorithms to meet design specifications.
Research Methodology	**507**	OC 1: solve real world problems with scientific approach. OC 2: develop analytical skills by applying scientific methods. OC 3: recognize, understand and apply the language, theory and models of the field of business analytics OC 4: foster an ability to critically analyze, synthesize and solve complex unstructured business

		problems OC 5: understand and critically apply the concepts and methods of business analytics OC 6: identify, model and solve decision problems in different settings OC 7: interpret results/solutions and identify appropriate courses of action for a given managerial situation whether a problem or an opportunity OC 8: create viable solutions to decision making problems
Semester-II		
Big Data Analytics	**511**	OC1 Understand Big Data Concepts OC2 Do Data Collection and Integration OC3 Develop Data Storage and Management OC4 Perform Data Preprocessing and Cleaning OC5 Understand Data Transformation and Feature Engineering OC6 Perform Exploratory Data Analysis (EDA) OC7 Use Big Data Analytics Tools
Modern Networking	**513**	OC1 Understand the modern networking concepts and implement Demonstrate in-depth knowledge in the area of Computer Networking. OC 2: To demonstrate scholarship of knowledge through performing in a group to identify, formulate and solve a problem related to Computer Networks OC 3: Prepare a technical document for the identified Networking System Conducting experiments to analyse the identified research work in building Computer Networks
Microservices Architecture	**515**	OC 1: Develop web applications using Model View Controller. OC 2: Think and apply the microservices way to software development.
Cloud Vision(P)	**516C**	OC 1: Understand the basics of computer vision OC 2: Understand and analyse various structure form motion and various estimates of Dense Motion OC 3: Apply various motion models to images and understand computation photography techniques OC 4: Apply Epipolar geometry, Rectification and various other 3D

		correspondence and Stereo reconstruction techniques OC 5: Understand image-based rendering and reconstruction.

COURSE OUTCOME SEMESTER-III

Subject	Outcome
Technical Writing and Entrepreneurship Development	CO1: Develop technical documents that meet the requirements with standard guidelines. Understanding the essentials and hands-on learningabout effective Website Development. CO2: Write Better Quality Content Which Ranks faster at Search Engines.Build effective social media Pages. CO3: Evaluate the essentials parameters of effective social media Pages. CO4: Understand importance of innovation and entrepreneurship. CO5: Analyze research and development projects
Applied Artificial Intelligence	CO1: be able to understand the fundamentals concepts of expert system andits applications. CO2: be able to use probability and concept of fuzzy sets for solving AIbased problems. CO3: be able to understand the applications of Machine Learning. The learner can also apply fuzzy system for solving problems. CO4: learner will be able to apply to understand the applications of genetic algorithms in different problems related to artificial intelligence. CO5: A learner can use knowledge representation techniques in natural language processing.
Machine Learning	CO1: Understand the key issues in Machine Learning and its associated applications in intelligent business and scientific computing. CO2: Acquire the knowledge about classification and regression techniques where a learner will be able to explore his skill to generatedata base knowledge using the prescribed techniques. CO3: Understand and implement the techniques for extracting the knowledge using machine learning methods. CO4: Achieve adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc. CO5: Understand the statistical approach related to machine learning. Hewill also Apply the algorithms to a real-world problem, optimize the models learned and report on the expected accuracy that can be achievedby applying the models.
Robotic Process Automation	CO1: Understand the mechanism of business process and can provide the solution in an optimize way. CO2: Understand the features use for interacting with database plugins.CO3: Use the plug-ins and other controls used for process automation. CO4: Use and handle the different events, debugging and managing theerrors. CO5: Test and deploy the automated process.

COURSE OUTCOME SEMESTER -IV

Subject	Outcome
BlockChain	CO1: The students would understand the structure of a block chainand why/when it is better than a simple distributed database. CO2: Analyze the incentive structure in a block chain-based systemand critically assess its functions, benefits and vulnerabilities CO3: Evaluate the setting where a block chain-based structure may beapplied, its potential and its limitations CO4: Understand what constitutes a "smart" contract, what are its legal implications and what it can and cannot do, now and in the nearfuture CO5: Develop blockchain DApps
Cyber Forensics	CO1: Investigate the cyber forensics with standard operating procedures. CO2: Recover the data from the hard disk with legal procedure. CO3: To recover and analyze the data using forensics tool CO4: Acquire the knowledge of network analysis and use it for analyzing the internet attacks. CO5: Able to investigate internet frauds done through variousgadgets like mobile, laptops, tablets and become a forensic investigator.
Security Operations Centre	CO1: Understanding basics of SOC, Cryptography and managing and deploying VPNs. CO2: Analyze Windows and Linux based logs along with logs generated by endpoints. CO3: Understand and analyze various forms of intrusions, threats andperform forensic analysis on them. CO4: Understand the incident response process and handle incidentsby adhering to compliance policies and standards set by the organization. CO5: Understand the various types of attacks and vulnerabilities, categorize events and perform incident analysis.
Human Computer Interaction	CO1: have a clear understanding of HCI principles that influence asystems interface design, before writing any code. CO2: understand the evaluation techniques used for any of theproposed system. CO3: understand the cognitive models and its design. CO4: able to understand how to manage the system resources anddo the task analysis. CO5: able to design and implement a complete system.

M.Sc. (Organic Chemistry) Programme outcome

PROGRAMME SPECIFIC OUTCOME (PSOs)

- Gain knowledge of the advanced concepts in the branch of chemistry, scrutinize and accomplish a solution to problems encountered in the field of research and analysis.
- Apply the basic knowledge of chemistry to perform various tasks assigned to them at the workplace in industry and academia to meet the global standards.
- Deduce qualitative and quantitative information of chemical compounds using advanced spectroscopic methods which can further be analyzed using practical skills inculcated in them during the course.
- Imbibe the attitude as well as aptitude of a scientific approach along with analytical reasoning with respect to the novel techniques actually implemented in the industry.
- Use the subject knowledge, communication and ICT skills to become an effective team leader/team member in the interdisciplinary fields.
- Understand, Manage and contribute to solve basic societal issues and environmental concerns ethically based on principles of scientific knowledge gained.
- Exhibit professional work ethics and norms of scientific development.

MSc-I **Semester I**	**Course Outcome**
Inorganic Chemistry-I	• The learner will know the important fundamental concept of Group Theory, which helps them in understanding the properties and bonding in polyatomic molecules. • The learner gets the knowledge about the various techniques used forCharacterization coordination compounds. • The learners develop the skill in interpretation of the spectra. • The learners will get comprehensive idea about established instrumental techniques andSignificant characterization tools available to study inorganic complexes having wide applications in industries.
Organic Chemistry-I	After completing the course students will be able to: 1. predict the reactivity of organic compound from its structure. 2. understand different methods used for determination of Organic ReactionMechanism 3. understand the fundamental concept in stereochemistry by applying varioussymmetry elements of organic molecule. 4. acquire the knowledge of chirality by taking examples of symmetrical andunsymmetrical molecule. 5. develop interest in stereochemistry by studying stereochemical features ofdifferent classes of organic compounds 6. identify the nomenclature of various stereochemical phenomena 7. organize the techniques of aromatic nucleophilic substitution

	reactions forsynthesizing/transforming molecules. 8. understand the concept of aromaticity and to know the nature of bonds,electronic effects and other properties of molecules. 9. understand the preparation of important oxidizing reagent and predict theselectivity of the reagents in organic reactions. 10. explain the preparation and uses of important reducing reagents in various organictransformation reaction.
Analytical Chemistry-I	After completion of this Course, the learner will be able to: 1. Understand various terms used in analytical chemistry. 2. Identify the different types of errors in analysis. 3. Sketch out the role and importance of total quality management, safety, accreditationsand GLP in industries. 4. Understand the efficacy of automation in chemical analysis. 5. Design and specify applications of advanced analytical techniques in various fields.6.Explore the applications of IR spectroscopy and thermal methods. 7. Perform basic calculations required in chemical analysis 8. Interpret the experimental results of analytical techniques. transformation reaction.
Chemistry Practical-I (Organic Chemistry and Analytical Chemistry)	1. After completion of this Course, the learner will be able to 2. Carry out one step preparation in laboratory with basic understanding of stoichiometry 3. Evaluate the process and outcomes of an experiment quantitatively and qualitatively 4. Check purity of product using thin layer chromatography 5. handle and get familiar with SOP's of instruments like potentiometer, conductivitymeter, colorimeter and spectrophotometer. 6. understand the concept of non-aqueous titrations and apply it in analysis of samples. 7. apply the theory of redox reactions to experimental systems. 8. separate the component of interest from the matrix. 9. develop scientific temperament and research-based skills accomplish to encountered inthe field of research
Physical Chemistry-I	1. The learners will apply the advanced thermodynamics, Maxwell equation and itsapplications to ideal gasses. 2. The learners will implement the applications of chemical thermodynamics to realgases, solutions, surfaces and their energetics. 3. The learners will understand the applications of operators and Schrodingerequation in the field of quantum Chemistry. 4. The learners will try to accomplish a solution to problems encountered in the fieldof research.
Physical and Inorganic Chemistry Practical-I	1. To apply basic concepts of separation and estimation of metals ions from constituent ores/alloys effectively using chemical analysis 2. To gain knowledge of employing instrumental techniques for quantitative analysis. 3. The learner can able to analyze structure, reactivity and reaction mechanisms of coordination compounds. 4. It explains various methods, concepts, highlights on effect of environment on human beings.

	5. Will able to understand Commercial applications of novel materials in synthesis of compounds.
Physical Chemistry-II	1. The learners evaluate the different theories of chemical kinetics and effect of temperature onreaction rates. 2. The learners will understand the applications of chain reactions in the field of PolymerChemistry. 3. The learners will evaluate the resting membrane potential by using the concept of bioelectrochemistry. 4. The learners will try to accomplish a solution to problems encountered in the field of research.
Research Methodology	**At the end of the Course,** 1. To enable the student to be able to extract information from journals and digital resources. 2. Understanding tools to analyze the data, writing and presenting scientific papers. 3. Safe working procedure and ethical handling of chemicals. 4. Describe research, identification of research problems, and preparation of proposals. 5. Practice ethics in all the domains of research. 6. Analyze the results using mathematical and statistical tools.
MSc-I **Semester II**	
Inorganic Chemistry-II	1. The learners will be able to learn ligand substitution reactions of Octahedral and Squareplanar complexes, Trans effect and factors affecting these substitution reactions. 2. The learners will be able to understand the 18 e^- and 16 e^- electron square planar complexes by studying different examples. They will also learn the preparation and properties of a few selected compounds including sandwich compounds of Fe, Cr 3. The learners will understand the structure and bonding of a few inorganiccompounds like Ziese's salt, ferrocene and bis(arene)chromium (0) 4. The learners will understand the occurrence and effect of toxic metals like Pb, As, Cu, Cd, and Hg on the environment, the different diseases caused by poisoning of metals and the impact these metals have on the living organism. 5. The learners will be familiar with the role of Inorganic chemistry in biological systems, understand the structure of various biological oxygen carriers and molecules involved in electron storage and transport.
Organic Chemistry-II	After completing the course students will be able to: 1. Recognize the type of mechanism & intermediates involved in the given organicreaction and to prove mechanism for the reaction. 2. Identify the ways to modify aliphatic and aromatic compounds via Nucleophilicsubstitution reactions. 3. Predict the mechanism and stereochemistry of important organic reactions. 4. Understand and write the mechanism of rearrangement reactions withstereochemistry and its

	applications. 5. Understand the HOMO-LUMO concept and its significance in organic chemistry. 6. Understand the basic principle and concepts in UV and IR spectroscopy 7. Understand the basic concepts of ^{1}H, ^{13}C NMR, and mass spectroscopy. 8. Understand how ^{1}H, ^{13}C NMR and Mass spectroscopy are important for thestructure determination of organic compounds.
Analytical Chemistry-II	After completion of this Course, the learner will be 1. able to compare the advantages/disadvantages of SEM, STM and TEM. 2. able to develop different techniques to separate the components of mixture. 3. conversant with basic principles and theories of mass spectrometry. 4. able to apply the electroanalytical methods to sample under consideration. 5. able to elaborate on electrogravimetry and coulometry techniques.
Chemistry Practical-I (Organic Chemistry and Analytical Chemistry)	After completion of this Course, the learner will be able to 1. learn determination of chemical types of different organic binary mixture 2. learn to separate solid organic binary mixtures on the basis of solubility. 3. learn to purify the separated organic compound by recrystallization technique 4. learn characterization steps of organic compounds 5. handle and get familiar with SOPs of instruments like potentiometer, conductivitymeter, colorimeter and spectrophotometer. 6. understand the concept of complexometric titrations and factors enhancingselectivity of EDTA as a titrant. 7. apply the theory of FES to fertilizers analysis. 8. develop scientific temperament and research-based skills accomplish to encounteredin the field of research
Physical Chemistry-I	1. To learn the concept of quantum chemistry and able to solve problems related to 1Dbox, 2D box, 3D boxes and to explain the role of operators in quantum chemistry. 2. To understand the use of Schrodinger wave equation in one and two electron systemsalong with applications of HMO. 3. To develop the skill to solve the problems based on chemical thermodynamics,molecular dynamics and quantum Chemistry. To apply the concept of Jablonski mechanism in photochemical reactions.
Physical Chemistry-II	1. To develop the skill to solve the problems based on molecular dynamics and quantumChemistry. 2. Learners will able to distinguish between competitive, Noncompetitive and UncompetitiveInhibition in enzyme-catalyzed reactions. 3. Learners will get knowledge of advanced chemical kinetics and molecular dynamics.

	4. Leathers will able to use advanced concepts of chemical thermodynamics in chemicalreactions.
Industrial Training/ Field Projects	At the end of the Course, Understand the Organizational Structure of a company. Develop work habits and attitudes necessary for job success (technicalcompetence, professional attitude, organization skills etc.) Develop written communication and technical report writing skills.
Physical and Inorganic Chemistry Practical-I	**Physical Chemistry** 1. To use the concept of quantum chemistry to interprete the shape and information about theorbitals like 1s, 2pz and 3dz2. 2. To apply the subject fundamentals-principles with practical knowledge to design experiments, analyze and interpret data so as to reach to proper conclusions 3. Learner will train to handle the sophisticated instrument like digital potentiometer, conductivity meter, spectrophotometer. **Inorganic Chemistry** 1. The learners will characterize different coordination compounds with the help of conductivity measurements, electronic and magnetic measurements and spectroscopic measurements**.** 2. Able to calculating the equilibrium constant for Fe3-/SCN1- by slope intercept method Able to determine the electrolytic nature of some inorganic compounds by conductance measurements.
MSc-II Semester III & IV	**Course Outcome**
Theoretical Organic Chemistry- Paper-I	• Students are able to understand the structure effects and reactivityby determination of reaction mechanism involving different intermediates for synthesis. • Understanding of different types of pericyclic reaction and their mechanism under thermal and photochemical condition. • Stereochemistry of different molecules of medium ring size and their reactivity towards different reagents. • Understanding the concept of racemization and resolution method. Determination of enantiomers and diastereomers by chromatographic, chiral derivatization agent and lanthanide shift reagents. • Concepts of supramolecular chemistry and their application with synthesis. • Understanding of the concept of asymmetric synthesis with use of chiral auxiliary in different types of reactions like aldol, Sharpless epoxidation, amino hydroxylation, Diels-Alder reaction. Photochemical reactions of different functional groups and their application.

Synthetic Organic Chemistry- Paper-II	• Understanding of various name reactions, their mechanism & applications. • Understanding the concept of radical mechanism and its use in the organic synthesis. • Study of various reaction intermediates, ylides, enamines and their reactions along with applications. • Concept of metals and non-metals use in organic synthesis. • Designing organic synthesis using protecting groups. Introductionof retro synthetic analysis. • Students are able to understand the electro-organic chemistry and selected methods of organic synthesis. • Application of transition and rate earth metals in organicsynthesis.
Medicinal Chemistry, Biogenesis, Green chemistry and Research Methodology- Paper-IV	• Students are able to understand the concept of drug discovery, design and development and synthesis. • Understanding basic concept of medicinal chemistry related to drug action. • Knowledge of the connection between the structural features of the drugs & their physicochemical characteristics, mechanism of action & uses. • Understanding of biogenesis and biosynthesis of natural products. • Concepts of Green chemistry and technologies like microwave synthesis, ultrasound assisted reaction. • Understanding basic concepts of research & its methodologies. • Identify appropriate research topics. • Select & define appropriate research problem and parameters. • Prepare a project proposal, organize and conduct research. • Write a research proposal, report and thesis. • Understanding of Data analysis, Chemical safety and Ethical handling of chemicals.
Natural Product, Heterocyclic chemistry andSpectroscopy - Paper III	• Student should be able to understand the classification, properties, structure elucidation and few syntheses of carbohydrates, natural pigments and insect pheromones. • Understand the multi-step synthesis of natural products and studyof prostaglandins, lipids and insect growth regulators. • Detail study of 1D-Proton NMR spectroscopy. Understand the factors affecting chemical shift, spin notations of various spin systems. • Interpret NMR spectra on basic values of PMR & C-13 NMR Delta values & IR -frequencies. • Discuss the problem of UV, IR and NMR & Mass. • Discuss the 2D-NMR spectroscopy with different techniques: COSY, HETCOR, DEPT, NOESY. Discuss the problems of the same technique. • Concepts of classification, structure, occurrence, biological role and synthesis of natural products like steroids, vitamins, antibiotics and terpenoids. • Classification of heterocyclic compounds of monocyclic and fusedheterocycles with their structure, reactivity, synthesis and reactions.

M.Sc. (Analytical Chemistry)

PROGRAMME SPECIFIC OUTCOME (PSOs):

1. To gain knowledge in chemistry, scrutinize and accomplish solution to problems encountered in the field ofresearch and analysis.

2. To apply the basic knowledge of chemistry to perform various tasks at the workplace to meet globalstandards.

3. To deduce qualitative and quantitative information using various analytical techniques.

4. To inculcate the aptitude of scientific approach along with analytical reasoning in technologies used in theindustry.

5. To explicit subject knowledge and integrate it in interdisciplinary research.

6. To understand, manage and contribute to solve societal and environmental issues ethically.

7. To exhibit professional work ethics and norms of scientific developments.

8. To develop critical thinking approach toward the scientific problems, analysis, validation and documentationwith safety norms and standards.

9. To inculcate analytical thinking, so that students will have an edge for a better future in chemical industries.

10. To imbibe an attitude of lifelong learning so as to thrive in knowledge and skills.

MSc-I **Semester I**	**Course Outcome**
Physical Chemistry-I	1. The learners will apply the advanced thermodynamics, Maxwell equation and its applications toideal gases. 2. The learners evaluate the different theories of chemical kinetics and effect of temperature onreaction rates. 3. The learners will implement the applications of chemical thermodynamics to real gases, solutions,surfaces and their energetics. 4. The learners will understand the applications of operators and Schrodinger equation in the field ofquantum Chemistry. 5. The learners will evaluate the resting membrane potential by using the concept of bioelectrochemistry. The learners will try to accomplish a solution to problems encountered in the field of research.

Organic Chemistry-I	**After completing the course students will be able to:** • predict the reactivity of organic compound from its structure. • understand different methods used for determination of organic reaction mechanism. • understand the fundamental concept in stereochemistry by applying various symmetry elements of organicmolecule. • acquire the knowledge of chirality by taking examples of symmetrical and unsymmetrical molecule. • develop interest in stereochemistry by studying stereochemical features of different classes of organic compounds • identify the nomenclature of various stereochemical phenomena. • organize the techniques of aromatic nucleophilic substitution reactions for synthesizing/transforming molecules. • understand the concept of aromaticity and to know the nature of bonds, electronic effects and other properties ofmolecules. • understand the preparation of important oxidizing reagent and predict the selectivity of the reagents in organicreactions. • explain the preparation and uses of important reducing reagents in various organic transformation reaction.
Analytical Chemistry-I	After completion of this Course, the learner will be able to: • Understand various terms used in analytical chemistry. • Identify the different types of errors in analysis. • Sketch out the role and importance of total quality management, safety, accreditations and GLPin industries. • Perform basic calculations required in chemical analysis and understand stoichiometry ofreactions. • Introduced to the basics of FTIR and applications of IR spectroscopy. • Learn about the instrumentation and specify applications of UV-Visible spectroscopy in variousfields. • Get familiar with various thermal methods and their applications. • Understand the efficacy of automation in chemical analysis.
Chemistry Practical-I (Analytical Chemistry and Physical Chemistry)	**The learner will be able to,** • understand the usage of subject fundamentals, principles with practical knowledge to design experiments,analyze and interpret data so as to reach to proper conclusions. • develop scientific temperament and research-based skills accomplish to encountered in the field ofresearch. • handle and get familiar with SOPs of instruments. • understand the concept of non-aqueous titrations and apply it in analysis of samples. • apply the theory of redox reactions to experimental systems. • separate the component of interest from the matrix.

Inorganic Chemistry-I	• The learner will be able to express the derivations of wave equation and concept of MOT appliedto diatomic & polyatomic molecules. • The learner will be able to systematically classify the molecules on the basis of Group theory andcomprehend its applications in explaining symmetry adapted linear combinations.
Inorganic Chemistry-II	The learners will be able to: • elucidate the structures of inorganic compounds and know the wide applications of solid-state lasers. • represent schematically Orgel and Tanabe Sugano diagrams, splitting of terms in octahedral environment. • calculate electron parameters with respect to inorganic complexes.
Inorganic Chemistry and Organic Chemistry	• To apply the knowledge of quantitative analysis for the determination of metals from ores/alloys. • To have training of handling of instruments, and learning the techniques of instrumental analysis of variouscommercial inorganic compounds.
Research Methodology	**At the end of the Course,** • To enable the student to be able to extract information from journals and digital resources. • Understanding tools to analyse the data, writing and presenting scientific papers. • Safe working procedure and ethical handling of chemicals. • Describe research, identification of research problems, and preparation of proposals. • Practice ethics in all the domains of research. • Analyze the results using mathematical and statistical tools.
MSc-I Sem-II	**Course Outcome**
Physical Chemistry-II	1. To learn the concept of quantum chemistry and able to solve problems related to 1D box, 2D box, 3Dboxes and to explain the role of operators in quantum chemistry. 2. To understand the use of Schrodinger wave equation in one and two electron systems along withapplications of HMO. 3. To develop the skill to solve the problems based on chemical thermodynamics, molecular dynamics andquantum Chemistry. 4. To apply the concept of Jablonski mechanism in photochemical reactions. 5. Learners will get knowledge of advanced chemical kinetics and molecular dynamics.

Organic Chemistry-II	After completing the course students will be able to: • Recognize the type of mechanism & intermediates involved in the given organic reaction and to provemechanism for the reaction. • Identify the ways to modify aliphatic and aromatic compounds via Nucleophilic substitution reactions. • Predict the mechanism and stereochemistry of important organic reactions. • Understand and write the mechanism of rearrangement reactions with stereochemistry and its applications. • Understand the HOMO-LUMO concept and it significance in organic chemistry. • Understand the basic principle and concepts in UV and IR spectroscopy • Understand the basic concepts of ^{1}H, ^{13}C NMR, and mass spectroscopy. • Understand how ^{1}H, ^{13}C NMR and Mass spectroscopy are important for the structure determination of organiccompounds.
Analytical Chemistry-II	The learner will be able to, • illustrate different chromatographic techniques to separate components from mixture. • conversant with basic principles, instrumentation and application of X ray, mass spectrometry andradioanalytical method. • compare the advantages/disadvantages of SEM, STM and TEM. • apply the electroanalytical methods to sample under consideration. • elaborate on electrogravimetry and coulometry techniques.
Analytical Chemistry and Physical Chemistry	The learner will be able to 1. use the concept of quantum chemistry to interpret the shape and information about the orbitals like 1s,2pz and 3dz2. 2. apply the subject fundamentals-principles with practical knowledge to design experiments, analyze andinterpret data so as to reach to proper conclusions 3. handle the sophisticated instrument like digital potentiometer, conductivity meter, spectrophotometer. 4. get familiar with SOPs of instruments. 5. understand the concept of complexometric titrations and factors enhancing selectivity of EDTA as atitrant. 6. apply the theory of FES to fertilizers analysis. 7. develop scientific temperament and research-based skills required in the field of research. 8. calculate the resin efficiency.
Inorganic Chemistry-III	Learner will be able to: 1) elucidate on the rate, mechanism of inorganic reactions including substitution, redox andisomerization reactions and on the methods of determination of rate of reactions. 2. compare the stability of complexes elaborate different methods of preparation andanalyze structure and bonding.

Inorganic Chemistry-IV	The student will be able to: 1. debate on toxicity of heavy metals, specific case studies and the effect of interaction of radiationwith the environment 2. To infer role of biological oxygen carriers, copper containing enzymes and nitrogen fixing enzymes inbiological systems
Inorganic Chemistry andOrganic Chemistry	After completion of this Course, the learner will be able to 1. apply theoretical concepts of coordination chemistry to synthesize inorganic complex compounds. 2. get knowledge of instrumental techniques, appropriate skillful handling of instruments,representation of data and interpretation of graphical results. 3. learn determination of chemical types of different organic binary mixture. 4. learn to separate solid organic binary mixtures on the basis of solubility. 5. learn to purify the separated organic compound by recrystallization technique. 6. learn characterization steps of organic compounds
Industrial Training/ Field Projects	**At the end of the Course,** 1. Understand the Organizational Structure of a company. 2. Develop work habits and attitudes necessary for job success (technical competence,professional attitude, organization skills etc.) 3. Develop written communication and technical report writing skills.

MSc-II **Semester III**	**Course Outcome**
Quality in Analytical Chemistry-Paper-I	• Students will be able to make a sampling plan, do sampling of raw material, intermediates, and finished products as well as select analytical methods. • Students will be able to interpret results and improve the quality of results by applying knowledge of uncertainty, signal-to-noise ratio, etc. • Students will gain knowledge about pharmaceutical legislation, GMP, GLP, regulations, etc. • Student study separation techniques like ion exchange chromatography and size exclusion chromatography

Advance Instrumental Techniques Paper-II	• Students will gain knowledge of surface analytical techniques, principles and instrumentation of Secondary ion mass spectroscopy Particle-induced X-ray emission spectroscopy, Electron spin Resonance, Mossbauer's spectroscopy, etc. • Students will get information about advanced electroanalytical techniques like polarography, voltammetry, Chronoamperometry, and chronopotentiometry. • Students will study some miscellaneous techniques of analysis such as Chemiluminescence, photoacoustic spectroscopy, Spectro electrochemistry, etc.
Bioanalytical Chemistry and Food analysis Paper III	• Students will gain knowledge about the Composition of body fluids and the detection of abnormal levels of glucose, creatinine, uric acid in the blood, protein,ketone bodies and bilirubin in the urine leading to a diagnosis of diseases. • General processes of the immune response, antigen-antibody reactions, precipitationreactions, radio, enzyme and fluoro-immunoassays • Student will gain information about the Physiological and nutritional significance of vitamins (water soluble and fat soluble) and minerals along with Analytical techniques (including microbiological techniques) for vitamins, enzymes, carbohydrates, proteins, essential amino acids, and lipids. • Students will gain information about Food additives, Food contamination, Food packaging, Quality requirements, and analysis of some food products like Milk, spices, Oils, fats, etc.