2019-20

Programme Outcomes,Programme Specific Outcomes and Course Outcomes of Undergraduate and Post Graduate Programmes

PROGRAMME OUTCOMES

UG Programmes

Deva Matha College, affiliated to the Mahatma Gandhi University, is committed to the pursuit of excellence in higher education, character building, and holistic personality development of the students, thereby making them responsible citizens. The college offers 12 undergraduate programs. Following are the main Program outcomes of the undergraduate programs offered by the institution.

- Imparting Academic excellence for Global Competence
- Imparting orientation for higher education and career
- Soft Skills development.
- Preparation for healthy family life
- Fostering entrepreneurial traits and innovation.
- Inculcating responsible citizenship and leadership.
- Inculcating the values of environment friendliness, human rights and gender equality.
- Enabling to lead a harmonious religious and scientific life.

PG Programmes

Deva Matha College offers nine PG programmes, of which five are in the self-financing sector. Following are the program outcomes of the post graduate programs offered by the institution.

- Imparting thorough knowledge of the specialized field of study.
- Developing Research Aptitude.
- Acquiring continuous learning skills
- Orientation for Employability, Professional Development and Ethical Behavior.
- Adaptation to changing social needs
- Preparation for healthy family life
- Fostering entrepreneurial traits and innovation.
- Inculcating responsible citizenship and leadership.
- Inculcating the values of environment friendliness, human rights and gender equality.
- Enabling to lead a harmonious religious and scientific life.

Program Specific Outcomes and Course Outcomes of Undergraduate and Post Graduate Programmes

1.UNDER GRADUATE PROGRAMMES

1.B.Sc. Botany

Programme Specific Outcomes

1. Knowledge and understanding of:

   a. The range of plant diversity in terms of structure, function and environmental relationships.

   b. The evaluation of plant diversity.

   c. Plant classification and the flora of Maharashtra.

   d. The role of plants in the functioning of the global ecosystem.

   e. A selection of more specialized, optional topics.

   f. Statistics as applied to biological data.

2. Intellectual skills – able to:

   a. Think logically and organize tasks into a structured form.

   b. Assimilate knowledge and ideas based on wide reading and through the internet.

   c. Transfer of appropriate knowledge and methods from one topic to another within the subject.

   d. Understand the evolving state of knowledge in a rapidly developing field.

   e. Construct and test hypothesis.

   f. Plan, conduct and write a report on an independent term project.

3. Practical skills: Students learn to carry out practical work, in the field and in the laboratory, with minimal risk. They gain introductory experience in applying each of the following skills and gain greater proficiency in a selection of them depending on their choice of optional modules.

   a. Interpreting plant morphology and anatomy.

   b. Plant identification.

   c. Vegetation analysis techniques.

   d. A range of physiochemical analyses of plant materials in the context of plant physiology and biochemistry.

   e. Analyze data using appropriate statistical methods and computer packages.

4. Transferable skills:
    a. Use of IT (word-processing, use of internet, statistical packages and databases).
    b. Communication of scientific ideas in writing and orally.
    c. Ability to work as part of a team.
5. Scientific Knowledge: Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form.
6. Problem analysis: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany.

Course outcomes

Sl. No.	Sub. code	Course name	Course outcome/s
1	BO1CRT01	Methodology of Science and an Introduction to Botany	Understand the universal nature of science □ □ Demonstrate the use of scientific method □ □ To lay a strong foundation to the study in Botany □ □ Impart an insight into the different types of classifications in the living kingdom. □ □ Appreciate the world of organisms and its course of evolution and diversity. □ □ Develop basic skills to study Botany in detail.
2	BO2CRT02	Microbiology, Mycology and Plant Pathology	Understand the world of microbes, fungi and lichens □ □ Appreciate the adaptive strategies of the microbes, fungi and lichens □ □ To study the economic and pathological importance of microorganisms
3	BO3CRT03	Phycology and Bryology	□ □ To study the evolutionary importance of Algae as progenitors of land plants □ □ Understand the unique and general features Algae and Bryophytes and familiarize it □ □ To study the external morphology, internal structure and reproduction of different types of Algae and Bryophytes □ □ Realize the application of Phycology in different fields
4	BO4CRT04	Pteridology, Gymnosperms and Paleobotany	□ □ Understand the diversity in habits, habitats and organization of various groups of plants. □ □ To impart an insight into the modern classifications in lower forms of plants. □ □ Understand the evolutionary trends in Pteridophytes and Gymnosperms. □ □ Study the anatomical variations in vascular

			plants. □ □ Understand the significance of Paleobotany and its applications.
5	BO5CRT05	Anatomy, Reproductive Botany, Microtechnique	□ □ Imparting an insight into the internal structure and reproduction of the most evolved group of plants, the Angiosperm. □ □ Understand the individual cells and also tissues simultaneously □ □ Understand the structural adaptations in plants growing in different environment. □ □ Understand the morphology and development of reproductive parts. □ □ Get an insight in to the fruit and seed development. □ □ Understand the techniques used to preserve and study plant materials.
6	BO5CRT06	Research methodology, Biophysics and Biostatistics	□ □ To equip the students to conduct independent research and prepare research reports. □ □ To make the students acquaint with different tools and techniques used in research work. □ □ To equip the students with basic computer skills necessary for conducting research. □ □ To enable the students to have enough numerical skills necessary to carry out research.
7	BO5CRT07	Plant Physiology and Biochemistry	□ □ Acquire basic knowledge needed for proper understanding of plant functioning. □ □ Familiarize with the basic skills and techniques related to plant physiology. □ □ Understand the role, structure and importance of the bio molecules associated with plant life.
8	BO5CRT08	Environmental sciences and Human Rights	□ □ Acquaint the student with the significance of Environmental Science. □ □ Make the students aware about the extent of the total biodiversity and the importance of their conservation. □ □ Help the student to design novel mechanisms for the sustainable utilization of natural resources. □ □ Enable the students to understand the structure and function of the ecosystems. □ □ Enable the students to understand various kinds of pollution in the environment, their impacts on the ecosystem and their control measures □ □ Make the students aware about various environmental laws in India and the role of various movements in the protection of nature and natural resources.
9	BO5OPT01	Agri-based microenterprises	□ □ Provide basic information about the business opportunities in plant sciences.

			□ □ Inform the student about sustainable agriculture and organic farming. □ □ Inculcate an enthusiasm and awareness about ornamental gardening, nursery management and mushroom cultivation.
10	BO6CRT09	Genetics, Plant Breeding and Horticulture	□ □ Imparting an insight into the principles of heredity □ □ Understand the patterns of inheritance in different organisms □ □ Understand the inheritance pattern of nuclear and extra nuclear genes □ □ Understand the methods of crop improvement □ □ Understand the importance of horticulture in human welfare □ □ Develop skill in gardening technique among students
11	BO6CRT10	Cell and Molecular Biology	□ □ Understand the ultra structure and functioning of cell in the sub-microscopic and molecular level. □ □ Get an idea of origin, concept of continuity and complexity of life activities. □ □ Familiarization of life processes. □ □ Understand the basic and scientific aspect of diversity. □ □ Understand the cytological aspects of growth and development. □ □ Understand DNA as the basis of heredity and variation.
12	BO6CRT11	Angiosperm morphology, Taxonomy and Economic Botany	□ □ Acquaint with the aims, objectives and significance of taxonomy. □ □ Identify the common species of plants growing in Kerala and their systematic position. □ □ Develop inductive and deductive reasoning ability. □ □ Acquaint with the basic technique in the preparation of herbarium. □ □ Familiarizing with the plants having immense economic importance.
13	BO6CRT12	Biotechnology and Bioinformatics	□ □ Understand the current developments in the field of Biotechnology and Bioinformatics. □ □ Equip the students to carry out plant tissue culture. □ □ Introduce the vast repositories of biological data knowledge. □ □ Equip to access and analyze the data available in the databases.
14	BO6PET02	Plant Genetic Resource Management	□ □ Acquaint the student with the history and evolution of crop plants, and their diversity.

			□ □ Familiarize the student with the available plant genetic wealth and the measures adopted for the conservation of these resources. □ □ Help the student to identify the crop plants and their wild relatives. □ □ Help the student to explore the potentialities of various underutilized plants to project as the future food prospects. □ □ Understand the significance of modern technology to locate the distribution of endangered species.
15	BO6PRT01	Investigatory project work done individually or in groups	□ □ To equip the students to conduct independent research and prepare research reports. □ □ To make the students acquaint with different tools and techniques used in research work. □ □ To equip the students with basic computer skills necessary for conducting research. □ □ To enable the students to have enough numerical skills necessary to carry out research
16	BO1CMT01	Cryptogams, Gymnosperms and Plant Pathology	□ □ Acquire fundamental knowledge in plant science and to make the student to understand that Botany is an integral part of the human life and developments. □ □ Foster and encourage an attitude of curiosity, appreciation and enquiry of various life forms of plants. □ □ Understand the identifying characters of the different types included in the syllabus. □ □ Understand the diversity of plants with respect to Algae, Fungi, Lichens, Bryophytes, Pteridophytes and Gymnosperms.
17	BO2CMT02	Plant Physiology	□ □ Make the students realize the importance of all physiological processes which take place in plants. □ □ Understand the mechanism of various physiological processes related to plant life.
18	BO3CMT03	Angiosperm Taxonomy and Economic Botany	□ □ Acquaint the student with the objectives and components of Taxonomy. □ □ Help the student to understand the systems of classification of angiosperms. □ □ Help the student to identify the common angiosperm species of Kerala. □ □ Familiarize the student with plants of immense economic importance.
19	BO4CMT04	Anatomy and Applied Botany	□ □ Understand different types of plant tissues. □ □ Understand the internal structure of different plant organs with reference to their functions. □ □ Understand the process of normal and anomalous secondary thickening in plants. □ □ Know the morphological and anatomical

			adaptations of plants growing in different habitats. □ □ Understand how botanical knowledge could be applied for crop improvement.

2. B.Sc Chemistry

Programme Specific Outcome

1. To understand the basic facts and concepts in chemistry.
2. To develop the ability to apply the principles of chemistry
3. To appreciate the achievements in chemistry.
4. To know the role of chemistry in nature and in society.
5. To develop problem solving skills.
6. To be familiarized with the emerging areas of chemistry and their applications in various spheres of chemical sciences and to apprise the students of its relevance in future studies.
7. To develop skills in proper handling of apparatus and chemical
8. Students are enabled to prepare accurate stocks solutions.
9. To publish various articles and documents in chemistry related books.
10. Develop hands-on experience
11. Perform experiments and interpret results obtained.

COURSE OUTCOME

CORE COURSES IN CHEMISTRY

Semester 1

GENERAL AND ANALYTICAL CHEMISTRY.

1. To develop interest among students in various branches of inorganic chemistry.
2. To impart knowledge about various analytical and instrumental tools for practicing Chemistry.

Semester II
THEORETICAL AND INORGANIC CHEMISTRY

1. To know about the historical developments, major facts and concepts in chemistry.
2. To provide theoretical knowledge on chemical bonding and periodic properties.
3. To develop the practical skills on quantitative estimation via volumetric analysis.

Semester III
ORGANIC CHEMISTRY - I

1. To understand the fundamentals of organic chemistry.

Semester IV

ORGANIC CHEMISTRY - II

1. To enable the students to know about the various chemical reactions and its mechanisms.
2. To develop skills in the qualitative analysis of organic compounds.

Semester V

CHEMISTRYOF D AND F BLOCK ELEMENTS

1. To understand the general characteristics of d and f block elements
2. To study the bonding in coordination compounds
3. To understand the role of metals in biological systems

BASIC ORGANIC CHEMISTRY II

1. To impart the students a thorough knowledge about the mechanisms of reactions of some selected functional groups in organic compounds.
2. To identify organic compounds using various spectroscopic techniques.

STATES OF MATTER

1. To understand the general characteristics different states of matter.

QUANTUM MECHANICS AND SPECTROSCOPY

1. To understand the fundamentals of quantum mechanics.
2. To know its applications in the study of structure of atoms, bonding in molecules and molecular spectroscopy.

ENVIRONMENTAL CHEMISTRY

1. To study the environmental management and impact assessment.
2. To understand about the toxic effects of pollutants.
3. To know about the pollution of water, air, soil.

SEMESTER VI

APPILED INORGANIC CHEMISTRY

1. To sensitize the students to the spectrum of applications of chemical methods and materials.
2. To give awareness about the application of radioactivity, nanomaterials, thermal and chromatographic techniques.
3. To study the chemistry of refractory materials and compounds of P block elements.
4. To learn about the qualitative analysis of various ions.

CHEMISTRY OF NATURAL PRODUCTS AND BIO MOLECULES

1. To enable the students to learn the chemistry of carbohydrates, heterocyclic compounds, amino acids etc.

2. To understand the structure and function of Enzymes proteins and nucleic acids.
3. To study the fundamentals of terpeniods, alkaloids, vitamins, lipids and steroids.
4. To have an elementary idea of supramolecular chemistry and green fluorescent protein.
5. To study the preparation of various organic compounds.
6. To develop basic skills required for analytical techniques.

EQUILIBRIUM AND KINETICS

1. To provide an insight to the thermodynamic and kinetic aspect of various chemical reactions and phase equilibrium.
2. To understand the elementary idea of catalysis.
3. To develop skills in doing experiments in kinetics, potentiometry, conductometry and two component system

SOLUTION CHEMISTRY

1. To provide an insight into the characteristic of different types of solutions and electrochemical phenomena.
2. To study the concepts of acids, bases, pH and buffer solutions.
3. Quantitative analysis of various ions, such as barium, sulphate, Mg^{+2}, Ni^{+2},Cu^{+2} etc.

CHOICE BASED COURSE

ENVIRONMENTAL CHEMISTRY

1. To study the environmental management and impact assessment.
2. To understand about the toxic effects of pollutants.
3. To know about the pollution of water, air, soil and noise.

COMPLEMENTARY COURSES IN CHEMISTRY
SEMESTER I

BASIC THEORECTICAL AND ANALYTICAL CHEMISTRY

(COMMON FOR ZOOLOGY, BOTANY, PHYSICS)

1. To study about atomic structure and chemical bonding.
2. To provide an insight into the fundamental concepts in chemistry, analytical and chromatographic techniques.

SEMESTER II

BASIC ORGANIC CHEMISTRY

(COMMON FOR ZOOLOGY, BOTANY, PHYSICS)

1. To understand some fundamental aspects of organic chemistry.
2. To study stereochemistry and mechanism of some basic organic reactions.
3. To learn about polymers.

4. To understand about volumetric analysis-acidimetry,alkalimetry,permanganometry.

SEMESTER III

INORGNIC AND ORGANIC CHEMISTRY

(COMMON FOR ZOOLOGY, BOTANY)

1. To understand facts and concepts in inorganic and organic chemistry.
2. To learn about various types of food additives.
3. To learn about the basic concepts of nuclear chemistry and heterocyclic compounds.

SEMESTER III

PHYSICAL CHEMISTRY - I (FOR PHYSICS)

1. To develop proper aptitude towards the study of surface chemistry.
2. To studying solids and crystalline state.
3. To study about various states of matter and equilibrium.

SEMESTER IV

ADVANCED BIO-ORGANIC CHEMISTRY

(COMMON FOR ZOOLOGY, BOTANY)

1. To enable the students to learn the chemistry of carbohydrates, amino acids etc.
2. To understand the structure and function of Enzymes proteins and nucleic acids.
3. To study the fundamentals of terpeniods, alkaloids, vitamins, lipids and steroids.
4. To understand about qualitative analysis of various organic compounds.

SEMESTER IV

PHYSICAL CHEMISTRY - II (FOR PHYSICS)

1. To provide an insight to the kinetic aspect of various chemical reactions.
2. To understand the basic facts and concepts in spectroscopy.
3. To study about Nano chemistry.
4. To know more about electrochemistry.

3.B.Com Computer Application

Programme specific outcome

B.Com. in Computer Applications is a 3- year undergraduate course designed to impart advanced learning to students in the discipline of Commerce, particularly involving the application of software technology for professional requirements, merging the academic specialties of Commerce and Computer Applications.

A B.Com degree is structured to provide the students managerial skills in disciplines related to commerce. Also, by the end of the program, students gain an in-depth knowledge on theory as well application in core subjects like accounting, law, statistics, finance, marketing etc...

Students opting to undergo a course in B.Com (Computer Applications) learn not only the subjects of Commerce, but are also taught to use the software technology for their professional requirements. The course bridging commerce and computer applications helps them to become smart and employable. Training in Computer Applications in the field of commerce is an extra mileage in placements. It has an innovative modern curriculum. Upon successful completion of the course, successful graduates interested in pursuing higher studies in the discipline may go for pursuing MBA, MCA, M.Com., M.Com., (CA), ACCA, MIB, MSW etc....

- After completing three years for Bachelors in Commerce (B.Com) program, students would gain a thorough grounding in the fundamentals of Commerce and Finance.
- The commerce and finance focused curriculum offers a number of specializations and practical exposures which would equip the student to face the modern-day challenges in commerce and business.
- The all-inclusive outlook of the course offer a number of value 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.
- Students will learn relevant financial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.
- Learners will be able to recognise features and roles of businessmen, entrepreneur, managers, consultant, which will help learners to possess knowledge and other soft skills and to react aptly when confronted with critical decision making
- Leaners will acquire the skills like effective communication, decision making, problem solving in day to day business affaires

Course Outcome

Course	Course Code	Sl. No	Subject	Outcome
	C01CRTO1	1	CORE COURSE -1 DIMENSIONS AND METHODOLOGY OF BUSINESS STUDIES	· Helps to understand business and its role in society · To get a clear idea of Business ethics and CSR · To comprehend the business environment and various dimensions · Helps to familiarize Technology

				integration in business · Helps to introduce the importance and fundamentals of business research
B.Com First Sem	C01CRTO2	2	CORE COURSE -2 FINANCIAL ACCOUNTING– I	Equip the students with the skill of preparing accounts and financial statements of various types of business units other than corporate undertakings
	C01CRTO3	3.	CORE COURSE -3 CORPORATE REGULATIONS AND ADMINISTRATION	Subject familiarise the students with the management and administration of joint stock companies in India as per Companies Act, 2013
	C01CMT01	4.	COMPLEMENTARY COURSE 1: BANKING AND INSURANCE	The subject familiarize the students with the basic concepts and practice of banking and the principles of Insurance
B.Com Second Sem	C02CRTO4	5.	CORE COURSE -4 FINANCIAL ACCOUNTING – II	Helps students in the preparation of books of accounts of various types of business activities and application of important accounting standards
	C02CRTO5	6.	CORE COURSE-5 BUSINESS REGULATORY FRAMEWORK	The subject familiarise the students with the legal framework influencing business decisions**.**
	C02CRTO6	7.	CORE COURSE-6 BUSINESS MANAGEMENT	The subject familiarise the students with concepts and principles of management
	CC02CMT02	8.	COMPLEMENTARY COURSE 2: PRINCIPLES OF BUSINESS DECISIONS	The subject is intended to familiarise the students with the economic concepts and principles underlying business decision making
B.Com Third Sem	CO3CRT07	9	CORE COURSE 7- CORPORATE ACCOUNTS I	To make the students familiarise with corporate accounting procedures and to understand the accounting for banking companies
	CO3CRT08	10	CORE COURSE 8- QUANTITATIVE TECHNIQUES FOR BUSINESS -I	To make the students understand the role of statistics and quantitative techniques in business and familiarize them with basic tools applied
	CO3CRT09	11	CORE COURSE 9- FINANCIAL MARKETS & OPERATIONS	The course is intended to familiarise the students with financial market operations in India
	CO3CRT10	12	CORE COURSE 10- MARKETING MANAGEMENT	The objective of this course is to provide a sound understanding of the basic principles of marketing management and their applications in the business and industry
	CO3OCT02	13	CORE (OPTIONAL)-1 INFORMATION TECHNOLOGY FOR	To Familiarise the role of information technology in business. Helps the students to develop web

			BUSINESS	pages for business and Acquaint with internet as a knowledge management tool
B.Com SEMESTER-IV	CO4CRT11	14	CORE COURSE 11-CORPORATE ACCOUNTS II	To equip the students with the preparation of financial statements of insurance companies and to understand the accounting procedure for reconstruction and liquidation of companies.
	CO4CRT12	15	CORE COURSE 12-QUANTITATIVE TECHNIQUES FOR BUSINESS-II	The objective of this course is to familiarize the students with more advanced tools of data analysis and forecasting and also to have an understanding of the fundamentals of theory of probability
	CO4CRT13	16	CORE COURSE 13-ENTREPRENEURSHIP DEVELOPMENT AND PROJECT MANAGEMENT	To develop entrepreneurial spirit among students To empower students with sufficient knowledge to start up their venture with confidence To mould young minds to take up challenges and become employer than seeking employment and To make them aware of the opportunities and support for entrepreneurship in India
	CO4OCT02	17	CORE (OPTIONAL)-2 INFORMATION TECHNOLOGY FOR OFFICE	To make the students capable of managing the office activities with the help of information technology.
Sem V	CM05BAA01	19	CORE-13 COST ACCOUNTING	To familiarise the students with cost concepts To make the students learn the fundamentals of cost accounting as a separate system of accounting.
	CM05CAA01	20	COMPLEMENTARY COURSE -1 ADVERTISING AND SALES PROMOTION	To make the students aware of the strategy, concept and methods of advertising and sales promotion.
	CM05BAA02	21	CORE-14 SPECIAL ACCOUNTING	To acquaint the students with advanced accounting principles and procedures.
	CM05BBA02	22	CORE (OPTIONAL) – 3 COMPUTERISED ACCOUNTING	To equip the students to meet the demands of the industry by mastering them with industry sought after computerised accounting packages. To expose the students to computer applications in the field of accounting. To develop practical skills in the application of Tally accounting package
	CM05DAP01	23	OPEN COURSE-	To familiarize the students with

			FUNDAMENTALS OF ACCOUNTING	practical accounts concepts and its need in the present scenario.
SEMESTER-VI	CM06BAA01	24	CORE-15 APPLIED COST ACCOUNTING	To acquaint the students with different methods and techniques of costing. To enable the students to identify the methods and techniques applicable for different types of industries.
	CM06CAA01	25	COMPLEMENTARY COURSE-2 PRINCIPLES OF BUSINESS DECISIONS	To familiarize the students with the economic principles and theories underlying various business decisions. To equip the students to apply the economic theories in different business situations.
	CM06BAA02	26	CORE-16 PRACTICAL AUDITING	To familiarize the students with the principles and procedure of auditing. To enable the students to understand the duties and responsibilities of auditors and to undertake the work of auditing.
	CM06BAA03	27	CORE-17 ACCOUNTING FOR MANAGERIAL DECISIONS	To equip the students to interpret financial statements. To enable the students to have a thorough knowledge on the management accounting techniques in business decision making.
	CM06BBA02	28	CORE (OPTIONAL)-3 DATABASE MANAGEMENT SYSTEM FOR BUSINESS	To familiarize students with database concepts and equip them to handle database management system for business firms.

4.B.Sc Physics

Programme Specific Outcomes

The B.Sc. Physics program is designed to impart basic knowledge of the discipline of Physics including phenomenology, theories and techniques, concepts and general principles. The courses are designed in such a way that by the end of the program students are equipped to ask physical questions and to obtain solutions to physical questions by use of qualitative and quantitative reasoning and by experimental investigation. The important student attributes including appreciation of the physical world and the discipline of Physics, curiosity, creativity and reasoned skepticism and understanding links of Physics to other disciplines and to societal issues is encouraged. With this in mind, we aim to provide a firm foundation in every aspect of Physics and to explain a broad spectrum of modern trends in physics and to develop experimental, computational and mathematics skills of the students.
The programme aims to develop the following abilities:
1. Read, understand and interpret physical information – verbal, mathematical and graphical.
2. Equip students in methodology related to Physics.
3. Impart skills required to gather information from resources and use them.
4. To give need based education in physics of the highest quality at the undergraduate level.
5. Offer courses to the choice of the students with interdisciplinary approach.
6. Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.
7. Provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.
8. Use Information Communication Technology to gather knowledge at will.
9. Attract outstanding students from all backgrounds.

Course Outcomes

The B.Sc Physics program has 13 courses offered in Physics during 6 semesters. A Course in Physics is offered in each of the first four semesters. The fourth semester has 4 courses in Physics and the sixth has 5 courses. The course outcomes of the different courses are stated here.

Semester.1

PH1CRT01: Methodology and perspectives of Physics

This course will be an introduction to the pursuit of Physics, its history and methodology. The course also aims at emphasizing the importance of measurement which is central to physics. It aims at inculcating passion for the subject in its learners and to help them revisit basic concepts. In addition to being introduced to concepts and developments in physics, by the end of this course, students should be well versed in vector analysis; concept of different number systems and their use; and calculation of errors in measurement.

Semester.2

PH2CRT02: Mechanics and Properties of Matter

This course is expected to empower the student to acquire engineering skills and practical knowledge, which help the student in their everyday life. This syllabus also cater to the basic requirements for their higher studies. This course will provide a theoretical basis for doing experiments in related areas.

Practical's Paper1 (Semester 1&2)

The practical paper offered in the first two semesters are Mechanics and Properties of Matter. The students are trained to develop skills in setting up of the experiment, acquisition of data, systematic analysis of the data and to estimate errors in measurement.

Semester.3

PH3CRT03 Optics, Laser and Fiber Optics

This course aims to provide necessary foundation in optics and photonics which prepare the students for an intensive study of advanced topics at a later stage. This course provides students with a working knowledge of optical physics, including diffraction, polarization, interference, laser physics and fibre optics. The course aims at the understanding of light as a wave and the relevance of this to optical effects such as interference and diffraction, and hence to lasers and optical fibres.

Semester.4

PH4CRT04 Semiconductor Physics

This course aims for the student to learn the physical principles and applications of Electronics which is most necessary for a Physics student. The basic concepts of semiconductor devices, Transistors and their applications are being imparted in the course. On successful completion, a student is expected to design and analyze of electronic circuits,

Practical's Paper 2 (Semester 3 &4)

The practical paper offered in third and fourth semester mainly contains experiments in Optics and Semiconductor Physics.Students are given training to set up optical experiments and interpret the results. Students are expected to gain expertise in assembling electrical and electronic circuits and familiarize themselves with the use of Cathode Ray Oscilloscope.

Semester.5

PH5CRT05 ELECTRICITY AND ELECTRODYNAMICS

A course in electricity and electrodynamics is an essential component of physics programme at graduate level. This course is expected to provide a sound foundation in electricity and electrodynamics to the students. It describes the basic concepts in electricity and magnetism such as potential and field, the relationship between electric and magnetic fields, and identify and apply appropriate theoretical techniques to solve a range of different problems in electromagnetism.

PH5CRT06 – Classical and Quantum Mechanics

This course is a prelude to advanced theoretical studies in Condensed Matter Physics, Spectroscopy, Astrophysics, Electrodynamics and Nuclear Physics. Students are expected to gain understanding about classical mechanics and get introduced to quantum concepts. Applications of quantum dynamics to fundamental problems is also part of this course. After the successful completion of this course, a student should be able to pinpoint the historical aspects of development of quantum mechanics, understand and explain the differences between classical and quantum mechanics, understand the idea of wave function, understand the uncertainty relations, solve Schrodinger equation for simple potentials, identify and relate the eigenvalue problems for energy, momentum, angular momentum.

PH5CRT07 - Digital Electronics and Programing

This course is expected to provide necessary back ground for applications of electronics in mathematical computation. It will introduce number representation and conversion between different representation. Logic circuits will be introduced and students are trained to analyze logic processes and implement logical operations using combinational and sequential logic circuits.This course is also intended to give an insight to computer hardware and computer applications. Fundamentals of microprocessors are discussed and students are trained to write simple microprocessor programs. Training is given in programming language C++ and are wards are made capable to do programming. Numerical methods are also discussed in this course.

PH5CRT08 – Environmental Physics & Human Rights

The course creates concern among the students on energy conservation and environmental protection. On completion of the course, student should be able to identify key challenges and technologies in energy use, utilization of energy resources, energy conversion and environmental conse-quences. The course helps students in acquiring basic knowledge about environment and Human rights

PH5OPT01- Our Universe- Open Course

The course helps students to comprehend cosmos . It develops scientific aptitude and introduce them to the interesting world of astrophysics and astronomy.

Semester.6

PH6CRT09 – Thermal and Statistical Physics

This course is to develop working knowledge of statistical mechanics and to use this knowledge to explore various applications related to topics in material science and the physics of condensed matter. Identifying and describing the statistical nature of concepts and laws in thermodynamics, in particular: entropy, temperature, chemical potential, Free energies, partition functions are essential to this course. It also aims at applying the concepts and laws of thermodynamics to solve problems in thermodynamic systems such as gases, heat engines and refrigerators etc.

PH6CRT10 - Relativity and Spectroscopy

This course is intended to introduce principles of spectroscopy and special theory of relativity. Concepts of special theory of relativity is discussed with special emphasis to develop problem solving skills. Atomic as well as molecular spectroscopy is discussed and the student will acquire basic knowledge of the interaction of radiation with matter and will be able to use the principles

to understand molecular spectra. The student will recognize the relationship between molecular/atomic spectra and their properties.

PH6CRT11 – Nuclear and Particle Physics

This course intended to explore the interior of nucleus and interaction between nucleons. The course gives an overview of modern nuclear and particle physics, stressing fundamental concepts and processes. Methods of measurement and applications within other sciences and technology will be reviewed. When the course is completed the student should be able to explain the different properties of nuclei, models of nuclear structure, forms of radioactivity and account for their occurrence, account for the fission and fusion processes and classify elementary particles according to their quantum numbers.

PH6CRT12 –- Solid State Physics

This course is intended to provide an introduction to the physics of Condensed Matter. Students are introduced to Crystal structure, free electron theory, Dielectric and magnetic properties of solids, superconductivity and material science. It provides an understanding of the crystal lattice and how the main lattice types are described, and help students to appreciate electronic band structure of metals and be able to discuss theory of conduction. It also enables them classify materials and introduces to areas such as nanotechnology.

Choice Based course:

XIV-V – Astronomy and Astrophysics

A good introduction to the basics of astronomy and astrophysics will be given in the course. Students will be able to further develop critical/logical thinking, scientific reasoning, and problem solving skills in the area of astrophysics. Students will learn fundamental concepts in astrophysics that will equip them to better understand new scientific discoveries made in the coming years and decades. They will have an understanding of the techniques and methods used to gain new knowledge in physics and astronomy. It is expected that some of the students will opt for this specialization for their post-graduation.

Practicals Paper 3,4,5,6 (Semester- 5,6)

Experiments in Mechanics, Electronics, Digital Electronics, Optics &Computer programming are done under four papers. The students gain expertize in setting the experiments, analyze results handling lab equipment and to trouble shoot devices and circuits.

5.B A English Language and Literature

Programme Specific Outcome

The Under Graduate Programme in English envisions the following outcomes at the successful completion of the programme.

To confidently use English in both written and spoken forms.

To be sensitized to contemporary issues of concern.

To appreciate to different genres of literature critically.

To understand the different features that go into the making of classic.

To evaluate and overcome the setbacks based on the insights from literary texts.

Able to internalise values imparted through literary works.

To understand the diversity of genres and techniques of representation and narration.

To internalise and use eloquent expressions in writing and speech.

To learn the rich texture of poetry, fiction, prose and drama.

To get initiated to the realm literary theory and major theoretical schools.

Course Outcome

B A English Language and Literature I Semester

1 **Name of the Course- Fine Tune Your English**

Course Code- EN1CC01

- Make students use English for formal communication effectively.
- Enable students to use English in both written and spoken form correctly.

2 **Name of the Course- Pearls from deep**

Course Code- EN1CC02

- Equip the students to appreciate and enjoy works of literature.
- Enable them to understand the aesthetic and structural elements of literature.

3 **Name of the Course- Methodology of studying literature**

Course Code- EN1CR01

. Be able to understand literature as a specific discipline within the humanities.

. Be aware of different methodology of studying literature.

. To attain an ability to understand the emerging trends in cultural studies.

B A English Language and Literature II Semester

4 **Name of the Course- Issues that Matter**

Course Code- EN2CC03

. Make students to identify major issues of contemporary significance.

. Equip the students to positively and rationally respond to the issues raised.

. Internalize values through selected literary works.

5 Name of the Course- Savouring the classics

Course Code- EN2CC04

. To get acquainted with classics from various lands.

. To understand the features that go into the making of classics.

6 **Name of the Course- Introducing Language and Literature**

Course Code- EN2CR02

.To understand the evolution and different traits of the English language.

. Form an understanding of the emergence of British and American literature through diverse periods.

B A English Language and Literature III Semester

7 Name of the course- Literature and/as identity

Course code-EN3CCO5

To understand the subtle negotiations of indigenous and diasporic identities within literature.

To comprehend the fissures and the tensions in the South Asian regional identities.

8 Name of the course- Harmony of Prose

Course code-EN3CRO3

. Be familiar with various prose styles and expressions.

Be able to use eloquent expressions and stylish language.

9 Name of the course- Symphony of verse

Course code-EN3CRO4

To get an awareness of the emerging cultural and aesthetic expressions in poetry.

To understand the poetic traditions in various ages.

10 **Name of the course- Evolution of literary movements: The shapers of destiny**

Course code-ENCY1

. Be able to analyse the manner in which a person is moulded by the historical events

.To understand English literature in the light of historical events.

B A English Language and Literature IV Semester

11 **Name of the course- Illuminations**

Course code-EN4CC06

. Enable the students to maintain a positive attitude to life.

. Enable the students to overcome the setbacks based on the insights that these texts provide.

12 **Name of the course- Modes of Fiction**

Course code-EN4CRO5

. To be able to comprehend the categories of British and non-British short fiction.

. To appreciate novel as a form of literary expression.

13 Name of the course- Study of prose

Course code-EN4CRO6

. To develop critical thinking in students

.To show the various process involved in meaning generation

. Be able to compare and contrast different prose styles

14 **Name of the course- Evolution of literary movements: The cross currents of change**

Course code-ENCY2

. To understand literature in the context of Russian revolution

. Enable the students to read literature against the backdrop of history

B A English Language and Literature V Semester

15 Name of the course- Reading Drama

Course code-ENCR7

.To develop an ability to appreciate and evaluate various types of plays

. Be familiar with the plays of master dramatists

16 **Name of the course- English for careers**

Course code-EN OG3

To acquire communication skills and prepare for career function

Gain the ability to make effective presentations

Be able to use language professionally

17 Name **of the course- Literary criticism and theory**

Course code-ENCR8

To form an understanding about major literary and theoretical schools

To understand the strains of literary criticism.

20 Name of the course- Language and linguistics

Course code-EN4CRO6

To describe and explain morphological and phonological processes and phenomena

.To show the various process involved in meaning generation

.Comprehend the segmental and suprasegmental features of language

19 Name of the course-Postcolonial literatures

Course code-ENCR10

To understand the nature of the resistance of the colonized

Be familiar with literary productions and issues related to national identity

B A English Language and Literature VI Semester

20 Name of the course- Women's Literature

Course code-ENCR11

To give an awareness of class, race, and gender as social construct and about how they affect women's lives

Enable the students to explore the plurality of female experienc

21 Name of the course-Indian writing in English

Course code-ENCR12

Understand the aesthetics and concerns of Indian writing

To identify the *locus standi* of diasporic Indian writers

22 Name of the course- Comparative Literature

Course code-ENCR12

Enable the students to make comparative and contrastive analysis

Identify shared features of various literatures

23 Name of the course-American Literature

Course code-ENCR12

To acquire knowledge about American literature

To understand various aspects of American literature

24 Name of the course-Regional literatures in Translation

Course code-ENOF2

Acquire a sense of regional literatures of India

Get familiarized with the cultural heterogeneity and linguistic plurality of the country

6.BA ECONOMICS

Programme Outcome

1. Enable students for higher studies and employment
2. Get an opportunity to understand qualitative and theoretical aspects of economics
3. Equip students to evaluate applied and policy issues in economics
4. Enable the students to choose wide range of economic specialization
5. Utilise well resourced learning environment

Course Outcome

Core 1- EC1CRT01 Perspectives and Methodology of Economics

1. Familiarization of students with the broad subject of Social Sciences
2. Aware student about methodologies, tools and analysis procedures in Economics
3. Creating an enthusiasm among students about research concepts, tools and methodology and make them aware of different schools of economic thought

Core 2- EC2CRT02 MicroEconomic Analysis-I

1. Aware students about the fundamentals of Microeconomics
2. Make students capable of understanding the concept of equilibrium, consumer behavior and consumer decisions
3. Students will be able to use different techniques for analyzing and solving micro economic problems

Core 3- EC3CRT03 Micro Economic Analysis-II

1. Developing skills to understand economic concepts
2. Creating capability to analyse different market structures
3. Equipy students to use economic tools to analyse economic policies

Core 4- EC3CRT04 Economics of Growth and Development

1. Enable students to the basic issues of economic growth and development
2. Make students more insightful about the modern approaches to development

Core 5- EC4CRT05 Macro Economics I

1. Aware students about issues in macro economics
2. Enable students to understand economic ideas of Classical school
3. Familiarize students with Keynesian economics

Core 6- EC4CRT06 Public Economics

1. Make students capable to analyse the impact of public policy on various developmental issues
2. Familarise students with public finance system

Core 7- EC5CRT07 Quantitative Techniques

1. Developing mathematical skills among students
2. Enable students to apply statistical tools in economic analysis

Core 8- EC5CRT08 Macro Economics II

1. Equip students to analyse different theories of consumption
2. Make them aware of inflation and unemployment
3. Familiarize students with monetary policy and fiscal policy
4. Enable students to get knowledge about post Keynesian schools

Core 9- EC5CRT09 Environmental Economics

1. Capable to identify need for sustainable development
2. Make aware of environmental issues

Core 10- EC5CRT10 Introductory Econometrics

1. Familiarization of meaning and methodology of econometrics
2. Make students capable for hypothesis testing and estimation

Core 11- EC6CRT11 Quantitative Methods

1. Enable the students to develop statistical skills
2. Make them capable to understand various statistical methods and tools

Core 12- EC6CRT12 International Economics

1. Capable to identify need for international trade
2. Aware the students the free flow of goods and services at the global level

Core 13- EC6CRT13 Money & Financial Markets

1. Make them aware of institutions, regulators and instruments of financial market
2. Capable to understand the idea about the working of various financial market segments

Core 14- EC6CRT14 Indian Economy

1. Equip the students with the theoretical, empirical and policy issues relating to the society
2. Aware the students about the background of the globalization

7.B.Sc Zoology

Programme Specific Outcomes

The BSc. Zoology programme is designed to help the students to:

1. Acquire basic knowledge of various disciplines of Zoology and General Biology meant both for a graduate terminal course and for higher studies.
2. Inculcate interest in nature and love of nature.
3. Understand the rich diversity of organisms and their ecological and evolutionary significance
4. Imbibe basic skills in the observation and study of nature, biological techniques, experimental skills and scientific investigation
5. Create awareness on the internal harmony of different body systems and the need for maintaining good health through appropriate lifestyle.
6. Acquire basic knowledge and skills in certain applied branches for self employment
7. Impart awareness of the conservation of the biosphere.

Course Outcomes

SEMESTER 1. ZY1CRT0I. CORE COURSE 1.

GENERAL PERSPECTIVES IN SCIENCE & PROTISTAN DIVERSITY

Objectives & outcomes:

- To create an awareness on the basic philosophy of science, concepts and scope
- To understand different levels of biological diversity through the systematic classification
- To familiarize taxa level identification of animals
- To make interest in Protistan diversity
- To impart knowledge on parasitic forms of lower invertebrates.

SEMESTER 11. ZY2CRT02, CORE COURSE 11

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ANIMAL DIVERSITY - NON CHORDATA

Objectives & outcomes:

- To create appreciation on diversity of life on earth
- To understand different levels of biological diversity through the systematic classification of invertebrate fauna
- To familiarize taxa level identification of animals
- To understand the evolutionary significance of invertebrate fauna

SEMESTER 111. ZY3CRT03, CORE COURSE 111:

ANIMAL DIVERSITY –CHORDATA

Objectives & outcomes:

- To acquire in depth knowledge on the diversity of chordates and their systematic position.
- To make them aware of the economic importance of some classes.
- To understand the evolutionary importance of selected chordate groups

SEMESTER IV. ZY4CRT04 CORE COURSE IV

RESEARCH METHODOLOGY, BIOPHYSICS AND BIOSTATISTICS

Objectives & outcomes:

- To familiarise the learner the basic concept of scientific method in research process.
- To have a knowledge on various research designs.
- To develop skill in research communication and scientific documentation.
- To create awareness about the laws and ethical values in biology.
- To equip the students with the basic techniques of animal rearing collection and preservation

- To help the student to apply statistical methods in biological studies.

SEMESTER V. ZY5CRT05 CORE COURSE V

ENVIRONMENTAL BIOLOGY AND HUMAN RIGHTS

Objectives & outcomes:

- To instill the basic concepts of Environmental Sciences, Ecosystems, Natural Resources,
- Population, Environment and Society
- To make the students aware of natural resources, their protection, conservation, the factors
- polluting the environment, their impacts and control measures.
- To teach the basic concepts of toxicology, their impact on human health and remedial measures
- To create a consciousness regarding Biodiversity, environmental issues & conservation strategies
- To develop the real sense of Human rights – its concepts & manifestations

SEMESTER V. ZY5CRT06 CORE COURSE VI

CELL BIOLOGY AND GENETICS

Objectives & outcomes:

- To understand the structure and function of the cell as the fundamentals for understanding the functioning of all living organisms.
- To make aware of different cell organelles, their structure and role in living organisms.
- To develop critical thinking, skill and research aptitudes in basic and applied biology
- To emphasize the central role of genes and their inheritance in the life of all organisms.

SEMESTER V. ZY5CRT07 CORE COURSE - V11:

EVOLUTION, ETHOLOGY & ZOOGEOGRAPHY

Objectives & outcomes:

- To acquire knowledge about the evolutionary history of earth - living and nonliving.
- To acquire basic understanding about evolutionary concepts and theories.
- To study the distribution of animals on earth, its pattern, evolution and causative factors.
- To impart basic knowledge on animal behavioural patterns and their role.

SEMESTER V. ZY5CRT08 CORE COURSE VIII

HUMAN PHYSIOLOGY, BIOCHEMISTRY, AND ENDOCRINOLOGY

Objectives & outcomes:

- This course will provide students with a deep knowledge in biochemistry, physiology and
- endocrinology.
- Defining and explaining the basic principles of biochemistry useful for biological studies
- for illustrating different kinds of food, their structure, function and metabolism.
- Explaining various aspects of physiological activities of animals with special reference to humans.
- Students will acquire a broad understanding of the hormonal regulation of physiological
- processes in invertebrates and vertebrates.
- By the end of the course, students should be familiar with hormonal regulation of
- physiological systems in several invertebrate and vertebrate systems.
- This also will provide a basic understanding of the experimental methods and designs that
- can be used for further study and research.

SEMESTER VI. ZY6CRT09 CORE COURSE IX

DEVELOPMENTAL BIOLOGY

Objectives & outcomes:

- To achieve a basic understanding of the experimental methods and designs that can be used for future studies and research.
- To provide the students with the periodic class discussions of current events in science which will benefit them in their future studies in the biological/physiological sciences and health-related fields
- To contribute to critical societal goal of a scientifically literate citizenry

SEMESTER VI. ZY6CRT10 CORE COURSE X.

MICROBIOLOGY AND IMMUNOLOGY

Objectives & outcomes:

- To inculcate a general awareness regarding the role of micro-organisms in maintaining health.
- This also will provide a basic understanding of the experimental methods and designs used in microbiology.

SEMESTER VI. ZY6CRT11 CORE COURSE XI.

BIOTECHNOLOGY, BIOINFORMATICS AND MOLECULAR BIOLOGY

Objectives & outcomes:

- To provide an understanding about the latest techniques in molecular biology and bioinformatics
- To emphasize the role of computers in the study of modern biology.

SEMESTER VI. ZY6CRT12 CORE COURSE XII

OCCUPATIONAL ZOOLOGY (APICULTURE, VERMICULTURE, QUAIL FARMING & AQUACULTURE)

Objectives & outcomes:

1. To equip the students with self employment capabilities.
2. To provide scientific knowledge of profitable farming.
3. To make the students aware of cottage industries

OPEN COURSE (FOR OTHER STREAMS) ZY5OPT02

PUBLIC HEALTH AND NUTRITION

Objectives & outcomes:

- To inculcate a general awareness among the students regarding the real sense of health.
- To understand the role of balanced diet in maintaining health.
- To motivate them to practice yoga and meditation in day-to-day life.

8.BA Triple Main

Programme Specific Outcome

English Language, Communication and Journalism are the major subjects taught under the 3 year UG programme.

- Provided quality learning in the areas of English Literature, Communication and Journalism
- developed interpersonal and communication skills of the students to equip them for higher studies and employment in future
- helped the students to discover and tap their fullest potential through appropriate co and extra curricular activities
- OJT in Journalism enabled the students to get employed in various media firms.

Course Specific Outcome

Semester I

SL No.1 Course Code EN1CC01 Fine Tune Your English

- To enable the students to get acquainted with the various aspects of language such as syntax, word classes , common errors etc.
- To familiarize the practical aspects of grammar

Sl.No.2.Course Code EN1CR01 Methodology for Studying Literature

Enables the students to understand literature as a specific discipline within the Humanities

Familiarity of the students with the Traditional, Formalistic,feministic, subaltern,and regionalistic approaches

SL No.3 EN1CE01 English Literature from the Old English Period to the Romantic Age

To give the students an overview of the historical development of English Literature.

Help them to understand the evolution of language and literature.

Familiarize them with classical writers and works

SL NO4 :COURSE CODE: EN1CEO2 CONVERSATIONAL SKILLS

*Sensitize students to the nuances of spoken forms of English

*Developed conversational skills among learners

SL No 5 Course Code EN1CE03 Writing for the Media

*Acquainted the students with different media

* Made awareness among the students about journalistic writing.

Semester II

SL No. 6 Course Code EN2CC03 Issues That Matter

*To give exposure to the contemporary issues of the world

* Make the students respond to the issues discussed

SL NO: 7 COURSE CODE : EN2CR02 INTRODUCING LANGUAGE AND LITERATURE

* Helped the students to make an awareness about the emergence of British and American English through diverse periods.

*gave a link towards literature and film as narrative expressions.

SL No.8 EN2CE04 English Literature from the Victorian Age to the Postmodern Period

To give the students an overview of the historical development of English Literature.

To get the knowledge of historical evolution of English Literature from the Victorian to the Postmodern Age.

SL.No. 9 Course code EN2CE05 Editing and Fundamentals of Media Writing.

Familiarized the students with the intricacies of editing and writing for the media.

SL.No.10. Course Code EN2CE06 Interpersonal Skills

Developed effective interpersonal skills

Students acquired self awareness and emotional maturity

Semester III

SL N0. 11. Course Code EN3CR03 Harmony of Prose

6. To give exposure to various prose styles
7. To improve the writing skills of the students with fine and language and chiselled expressions

Sl. No.12. Course Code EN3 CR04 Symphony of Verse

Understood poetry of different periods of the English Tradition

Awareness of cultural and aesthetic expressions of poetry

SL NO. 13: EN3CE07 INTRODUCTION TO NARRATOLOGY

*To create an awareness about the narrative techniques and different modes of narration.

SL.No. 14 Course code EN3CE08 Digital Writing, Advertising and Reporting for Media.

*Make students adept at writing , reporting, and advertising, in the digital interface.

SL.No. 15 EN3CE09 Creative Writing

To enable students to acquire creative writing skills.

To get an overall idea about successful writing

To enhance the writing skills.

Semester IV

SL NO: 16 COURSE CODE : EN4CR05 MODES OF FICTION

Acquainted the students with various modes of fiction

Appreciate novel as form of literary expression

SL NO:17 COURSE CODE EN4CR06 : LANGUAGE AND LINGUISTICS

* Students equipped with morphological processes

* involved in the processes of generation of meaning

SL No18 Course Code:EN4CE10 Business Writing

4. To equip the students to do business correspondence
5. Enabled the students to prepare all types of letters both formal and informal

6. Developed writing skills to keep good records

SL.No. 19 EN4CE11 Translation: Theoretical and Literary Perspectives.

To familiarize the students with the theories of translation

To acquaint the students with the regional literatures in translation

SL.No. 20 Course code EN4CE12 Writing for Radio and Television.

*Acquainted the students with the audio-visual media of communication.

Semester V

SL.No.21 a. Course Code EKHZPOH Open Course Physical Education : physical Health and Lifeskill Education.

4. Make aware the students about the need of physical education.
5. *Make acquaint the students about physical fitness and life skill education.

SL.No. 21.b. Course Code EN5CROP03 English for Careers

To train students in making effective presentations develop communication skills, which will enable them to prepare for a career.

To train themselves in making effective presentations.

To make the students competent in their job-seeking, job-getting, and job-holding needs

SL.No. 22. Course Code. EN5CR07 Acts on the Stage

Familiarize the students with different genres and analysis of plays

Enable them to appreciate and critique drama as an art form.

Introduce the new world of plays and its analysis to the students

SL.No.23 Course code EN5CR08 Literary Criticism and Theory

*Acquainted with various literary theories

* Made an exposure to the Eastern and Western criticism and thought

SL NO: 24 Course code: EN5CR09 INDIAN WRITING IN ENGLISH

* Awareness about the theme which Indian English writers share.

*Made an awareness about sub nationalities and regionalities.

SL NO: 25 COURSE CODE: EN5CREN 01 ENVIRONMENTAL SCIENCE AND HUMAN RIGHTS

*Encouraged students to do research and make decisions of their own about complex environmental issues.

* developed character building and positiveness in attitude and values.

Semester VI

SL NO 26 : COURSE CODE : EN6CR10 POST COLONIAL LITERATURES

*Enabled the students to understand varied dimensions of post colonial subjectivity through theory and literature.

SL NO 27 : COURSE CODE : EN6CR11 WOMEN'S WRITING

*Identified how the stereotypical representation of women were constructed.

* enabled the students to critically respond to literature from a feminist perspective.

SL.No.28.Course Code EN6CR12 American Literature

To enable the students to have a holistic understanding of the heterogeneity of American culture.

To have a deep understanding about the gradual evolution of American literature.

To enable the students to analyse the prose, poetry, drama, and fiction in relation to their historical and cultural contexts.

SL.No.29 Course code EN6CR 13 Modern World Literature

4. To shed light on the modern trends in world literature
5. Familiarize the students with writers from different continents, their perspectives, language,style etc.

SL.No. 30 Course code EN6OJT O1 OJT in Media: Audio, Visual and Print & Project.

3. Familiarised the students about the practical side of visual and print media
4. Make students aware about the dissertation writing process
5. Enable the students to effectively participate in Viva-Voce.

9.BA Malayalam

Programme Specific outcome

- To improve esthetics sense in Malayalam language and literature
- To acquire knowledge in different folk forms in Kerala
- To know the grammar and linguistics area of Malayalam Language
- To improve literary sense and writing skills in Malayalam
- To acquire the ability to translate books from Malayalam to English
- To improve students social commitment
- To improve students teaching skill which is useful for their future
- To inculcate students knowledge about Kerala history and culture
- To bring the ability to evaluate the cinema and write appreciation about it
- To improve the Research aptitude of the students

Course outcomes

SL. NO	Sub Code	Course Name	Outcome
1	MLICCT01	കഥാസാഹിത്യം	സാഹിത്യപരിചയം, വായനാഭിരുചി, ആസ്വാദനശേഷി എന്നിവ കുട്ടികൾ ആർജ്ജിക്കുന്നു. സമൂഹത്തിലെ പ്രവണതകൾ കഥാസാഹിത്യത്തിൽ പ്രകടമാകുന്നത് അനുഭവിച്ചറിയുന്നു.
2	MLICRT01	നവീനകവിത	ഭാഷയിലെ വ്യതിയാനങ്ങൾ കവിതയിലെ രാഷ്ട്രീയ ബോധ്യം സൗന്ദര്യാത്മകത എന്നിവ തിരിച്ചറിയുന്നു. പരിസ്ഥിതി, ദളിത്, സ്ത്രീന്യൂനപക്ഷാനുഭവങ്ങളുടെ ആവിഷ്കാരത്തിൽ നിന്ന് സമൂഹത്തെ മനസ്സിലാക്കുന്നു.
3	MLICM01	മലയാളപഠനത്തിന്റെ രീതി ശാസ്ത്രം	മലയാളഭാഷയുടെ രൂപീകരണം, വളർച്ച. സാഹിത്യചരിത്രം, ഭാഷാഭേദം എന്ന യാഥാർത്ഥ്യം ഇവയെ പരിചയപ്പെടുന്നു. കേരളത്തിന്റെ സാംസ്കാരികവൈവിധ്യത്തിൽ ഭാഷയുടെ സ്വാധീനം തിരിച്ചറിയുന്നു.
4	MLICMT02	നാടകവും സിനിമയും	ദൃശ്യകലകളുടെ സാജാത്യവൈജാത്യങ്ങൾ തിരിച്ചറിയുന്നു. രംഗഭാഷയും ചലച്ചിത്രഭാഷയും വേറിട്ട് മനസ്സിലാക്കുന്നു.
5	ML2CCT02	കവിത	സാമാന്യമായ കവിതാസാഹിത്യപരിചയം, വായനാഭിരുചി, കാവ്യാസ്വാദനശേഷി എന്നിവ വളരുന്നു. കവിതാസാഹിത്യത്തിൽ സംഭവിക്കുന്ന ഭാവുകപരിണാമങ്ങൾ തിരിച്ചറിയുന്നു.
6	ML2CRT02	മലയാളകവിത എഴുത്തച്ഛൻ മുതൽ കവിത്രയം വരെ	മധ്യകാലം മുതൽ കവിത്രയംവരെയുള്ള കവിതാസാഹിത്യപഠനത്തിലൂടെ കേരളത്തിന്റെ സാംസ്കാരികപരിണാമത്തെ മനസ്സിലാക്കുന്നു.
7	ML2CMT03	ആധുനികലോകകവിത	വിവിധരാജ്യങ്ങളിലെ ഭാഷാ, സംസ്കാരം, സൗന്ദര്യശാസ്ത്രം എന്നവയുടെ വൈവിധ്യം തിരിച്ചറിയുന്നു. പാശ്ചാത്യകൊളോണിയൽ ശക്തികളുടെ കടന്നുവരവ് ഓരോനാട്ടിലുമുണ്ടാക്കിയ സാംസ്കാരികവും സൗന്ദര്യശാസ്ത്രപരവുമായ ചലനങ്ങൾ തിരിച്ചറിയുന്നു.
8	ML2CMT04	ഫോക്‌ലോർ വിജ്ഞാനം	ചരിത്രം സംസ്കാരം എന്നീ വ്യവഹാരങ്ങളെ വിമർശനാബുദ്ധ്യാ നോക്കിക്കാണുവാൻ ശീലിക്കുന്നു. മലയാളിയുടെ പരമ്പരാഗതഅറിവുരൂപങ്ങളെയും ജ്ഞാനമണ്ഡലത്തിലെ പുതുമകളെയും ചേർത്തുവച്ച് മനസ്സിലാക്കുന്നു.
9	ML3CCT03	ദൃശ്യകലാസാഹിത്യം	കേരളത്തിന്റെ ദൃശ്യകലാപാരമ്പര്യത്തെ പരിചയപ്പെടുന്നു. സിനിമ, നാടകം മുതലായ ശക്തമായ ദൃശ്യകലാരംഗത്തിന്റെ സാധ്യതകൾ തിരിച്ചറിഞ്ഞ് ഉപയോഗിക്കുവാൻ പ്രാപ്തരാകുന്നു.
10	ML3CRT03	കേരളസംസ്കാരം-പൂർവ്വഘട്ടം	കേരളീയസമൂഹത്തിന്റെ രൂപീകരണവും പരിണാമവും സാംസ്കാരിക പ്രക്രിയകൾ എന്ന നിലയിൽ മനസ്സിലാക്കുന്നു. അറിവുകളും ഉപയോഗപ്പെടുത്തി സാംസ്കാരിക വിശകലനം നടത്താൻ പ്രാപ്തി നേടുന്നു.
11	ML3CMT05	ഒരു എഴുത്തുകാരൻ/എഴുത്തുകാരി-മാധവിക്കുട്ടി.	സ്വത്വാവിഷ്കാരപരമായ പ്രത്യേകതകൾ, തുറന്നുപറച്ചിലിന്റെ ശക്തിദൗർബല്യങ്ങൾ, ആഖ്യാനരീതിയുടെ സവിശേഷത, അനുഭവകർതൃത്വത്തിന്റെ ഭിന്നവഴികൾ ഇവ മനസ്സിലാക്കുന്നു. സ്വത്വപഠനത്തിന്റെ പുതിയഭൂമിക പരിചയപ്പെടുന്നു.

12	SC3CMT01	സംസ്കൃതം - Poetry, Rhetorics & Basics of Grammar.	ക്ലാസ്സിക്കുകളിലൂടെ ഭാരത സംസ്കാരത്തെ മനസ്സിലാക്കുന്നു.
13	ML4CCT04	മലയാളഗദ്യരചനകൾ	മലയാളഗദ്യത്തിന്റെ ശക്തിയും സാധ്യതയും തിരിച്ചറിയുന്നു. എഴുത്തുകാരനെ നിർമ്മിക്കുന്നതിൽ സമൂഹം വഹിക്കുന്ന പങ്ക് മനസ്സിലാക്കുന്നു.
14	ML4CRT04	കേരളസംസ്കാരം - ഉത്തരഘട്ടം	കേരളത്തിലെ അധിനിവേശവും ആധുനികതയും തമ്മിലുള്ള ബന്ധം മനസ്സിലാക്കുന്നു. കേരളനവോത്ഥാനത്തിന്റെ നാൾവഴികൾ പരിചയപ്പെടുന്നു.
15	ML4CMT06	ആധുനികമലയാള ഭാഷ	19-ാം നൂറ്റാണ്ടിന്റെ അവസാനത്തോടെ ആധുനികലോകബോദ്ധ്യത്തിന്റെ കൈപിടിച്ച് മലയാളം ഒരാധുനികഭാഷയായി പരിണമിച്ചതിന്റെ വഴികൾ മനസ്സിലാക്കുന്നു.
16	SC3CMT02	സംസ്കൃതം- Prose, Vrutha, Alankara, Theories of Poetics and Grammar.	പൗരസ്ത്യകാവ്യദർശനങ്ങളെക്കുറിച്ച് മനസ്സിലാക്കുന്നു. ഭാരതത്തിന്റെ ഉന്നതമായ കാവ്യപാരമ്പര്യം തിരിച്ചറിയുന്നു.
17	Ml5CRT05	പരിസ്ഥിതിവിജ്ഞാനവും മനുഷ്യാവകാശപഠനവും	മനുഷ്യനും പരിസ്ഥിതിയും തമ്മിലുള്ള അടിസ്ഥാനപരമായ ബന്ധം വിദ്യാർത്ഥികളിൽ ഉറപ്പിച്ചെടുക്കുന്നു. പ്രകൃതിയെയും പ്രകൃതിവിഭവങ്ങളേയും സംരക്ഷിക്കുക എന്ന ദൗത്യം ഏറ്റെടുക്കുവാൻ കുട്ടികളെ പ്രാപ്തരാക്കുന്നു.
18	ML5CRT06	സാഹിത്യമീമാംസ	ഭാരതീയവും ഭാരതീയേതരവുമായ സൗന്ദര്യദർശനങ്ങൾ, സാഹിത്യസിദ്ധാന്തങ്ങൾ എന്നിവയെക്കുറിച്ച് സാമാന്യജ്ഞാനം നേടുന്നു. സൈദ്ധാന്തികവ്യവഹാരങ്ങൾക്ക് സാഹിത്യത്തിലുള്ള പ്രാധാന്യം തിരിച്ചറിയുന്നു.
19	ML5CRT07	ചെറുകഥ, നോവൽ	ഗദ്യസാഹിത്യത്തിന്റെ വളർച്ചയുടെ വിവിധഘട്ടങ്ങൾ, ചരിത്രപരവും സാംസ്കാരികവുമായ മാറ്റങ്ങൾ, പരീക്ഷണങ്ങൾ, ദളിത്-സ്ത്രീ-പരിസ്ഥിതി എന്നിവയുടെ അടയാളപ്പെടുത്തലുകൾ ഇവ മനസ്സിലാക്കാനും ഇവയെക്കുറിച്ച് ആഴത്തിൽ ചിന്തിക്കുവാനും അന്വേഷിക്കുവാനും പ്രാപ്തരാകുന്നു.
20	ML5CRT08	ഭാഷാശാസ്ത്രം	ഭാഷയുടെ ഉദ്ഭവം, വികാസം, പരിണാമം എന്നിവയെക്കുറിച്ച് സാമാന്യധാരണയുണ്ടാകുന്നു. ആശയവിനിമയമാതൃക എന്ന നിലയിലും സാമൂഹികസ്വത്വചിഹ്നമെന്ന നിലയിലും ഭാഷയെ സമീപിക്കാൻ പഠിക്കുന്നു.
21	ML5CRT02	മാധ്യമപഠനം	വിശാലമായ മാധ്യമലോകത്തിന്റെ ചരിത്രം പഠിക്കുന്നതോടൊപ്പം അവയുടെ സാധ്യതകൾ പ്രയോജനപ്പെടുത്തുവാനും ശീലിക്കുന്നു.
22	ML6CRT09	കേരളീയദൃശ്യകല	കേവലമായ വിനോദോപാധി, മതപരമായ അനുഷ്ഠാനും എന്നീ നിലകളിൽ ദൃശ്യകലകളെ മനസ്സിലാക്കാൻ സാധിക്കുന്നു. ഇവയുടെ സാമൂഹിക പ്രസക്തി, കലാപരത, സാഹിത്യമൂല്യം, സംഗീതം, അരങ്ങ് എന്നിവയെക്കുറിച്ച് ധാരണ ലഭിക്കുന്നു.
23	ML6CRT10	പ്രാചീനസാഹിത്യം	പദ്യം, ഗദ്യം, മിശ്രം എന്നീ ശാഖകളിലുള്ള പ്രാചീനസാഹിത്യകൃതികളെ പരിചയപ്പെടുന്നു. പ്രാചീനസാഹിത്യത്തിൽ ഉപരിപഠനത്തിനും ഗവേഷണത്തിനുമുള്ള താത്പര്യം ജനിക്കുന്നു.
24	ML6CRT11	ഗദ്യസാഹിത്യനിരൂപണം	മലയാളനിരൂപണത്തിന്റെ അനുക്രമമായ വളർച്ചയെക്കുറിച്ച് അവബോധമുണ്ടാകുന്നു. ആത്മകഥകൾ, ഓർമ്മകൾ, അനുഭവങ്ങൾ എന്നിവയിലൂടെ മഹത്തായ കർമ്മവഴികളും ഗദ്യരചനാരീതിയും തിരിച്ചറിയുന്നു.

25	ML6CRT12	വ്യാകരണം, ഭാഷാചരിത്രം	വിശേഷവ്യവഹാരത്തിനുള്ള ഭാഷാപാടവം കൈവരിക്കുന്നു. കാലാനുസൃതമായി വ്യാകരണരൂപങ്ങളുടെ പ്രയോഗത്തിലുണ്ടാകുന്ന പരിണാമം തിരിച്ചറിയുന്നതിലൂടെ ഭാഷയുടെ ചലനാത്മകത മനസ്സിലാക്കുന്നു.
26	ML6CRT01	മലയാളത്തിലെ സ്ത്രീരചനകൾ	മതം, കുടുംബം, വിദ്യാഭ്യാസം മാധ്യമം തുടങ്ങിയ സ്ഥാപനങ്ങൾ ലിംഗവിവേചനത്തെ ഉല്പാദിപ്പിക്കുകയും നിലനിർത്തുകയും ചെയ്യുന്നതെങ്ങനെ എന്നു തിരിച്ചറിയുന്നു. ആത്മീയത, രാഷ്ട്രീയാധികാരം മുതലായ ഇടങ്ങളിൽ നിലനിൽക്കുന്ന സ്ത്രീവിവേചനത്തെ തിരിച്ചറിഞ്ഞ് അതിനെ പ്രതിരോധിക്കാൻ പ്രാപ്തരാകുന്നു.
27	ML6CRT01	പ്രോജക്ട്	സാഹിത്യം, സംസ്കാരം എന്നീ മേഖലകളിൽ ഗവേഷണ താത്പര്യം വളരുന്നു.

10.B.Sc Mathematics

Programme Specific Outcomes

- Learn mathematics meaningfully.
- Acquire manipulative skills.
- Do problems using thumb rules.
- Have foundation in basic Mathematics and other relevant subjects
- Able to tackle a wide range of topics

Course Outcomes

Sl. No.	Course Code	Course Name	Course outcomes
1	MM1CRT01	Foundation of Mathematics	• Understand the areas of modern mathematics • Able to apply the logic theory to practical situations for drawing conclusion • Explain the fundamental ideas of sets and functions • To get basics of courses in succeeding semesters
2	MM2CRT01	Analytic Geometry, Trigonometry and Differential Calculus	• Able to understand the basic ideas of conics • Familiarized with real and imaginary parts of a circular and hyperbolic functions of a complex variable • Appreciate the beauty of the C + iS method • Able to find the nth derivatives of functions
3	MM3CRT01	Calculus	• Understand the ideas of derivatives and higher order derivatives. • Develop competency in applying the idea of partial derivatives. • Acquire the basic ideas of double and triple integral. • Familiarized with different three dimensional surfaces and their properties. • Able to change variables in multiple integrals.
			• Acquire the basic knowledge of vector differentiation and vector integration.

4	MM4CRT01	Vector Calculus, Theory of Numbers and Laplace Transform	• Compute the area of parametric surfaces in 3-dimensional space. • Analyze the structure and nature of surfaces • Apply the knowledge of Number Theoretic Problems in practical situations
5	MM5CRT01	Mathematical Analysis	• Explain the basic idea of real numbers • Describe the real line as a complete, ordered field • Acquire the basic knowledge of convergence and divergence of sequences • Demonstrate an understanding of limits and how they are used in sequences, series • Produce rigorous proofs of results that arise in the context of real analysis
6	MM5CRT02	Differential Equations	• Understand the order, degree and various standard forms of differential equations and their solutions • Understand the basic knowledge of complimentary function and particular integral • Be familiar with the modeling assumptions and derivations that lead to PDEs • Be competent in solving linear PDEs using classical solution methods
7	MM5CRT03	Abstract Algebra	• Demonstrate understanding of and the ability to work within various algebraic structures • Produce rigorous proofs of propositions arising in the context of abstract algebra
8	MM5CRT04	Human Rights and Mathematics for Environmental Studies	• Understand and appreciate the rich biodiversity of India, which provides various resources for people • Familiarized with different kinds of environmental pollution • Educate his / her need for environmental protection • Observe natural situations where they can find an incidence of

			Fibonacci numbers • Estimate the value of Golden Ratio • Acquaint themselves with various rules protecting human rights
9	MM5GET02	Applicable Mathematics	• Develop Mathematical skills • Explain the relevant mathematical techniques • Perform abstract mathematical reasoning • Learn independently • Apply short-cut methods for solving problems
10	MM6CRT01	Real Analysis	• Explain Continuity and Discontinuity of various functions in different contexts • Acquire skill in applying the various techniques of differentiation and applications • Develop skill in checking the uniform convergence of series using various tests of convergence • Determine the limit point of a series of functions
11	MM6CRT02	Graph Theory and Metric Spaces	• Acquire a basic idea of graph, various terms associated and matrix representations of graphs • Check for solutions of famous basic problems in graph theory • Understand the various properties of metric spaces
12	MM6CRT03	Complex Analysis	• Able to compute sums, products, quotients, conjugate, modulus, and argument of complex numbers • Introduce elementary complex functions • Understand the basic methods of complex integration and its application in contour integration
13	MM6CRT04	Linear Algebra	• Acquire the knowledge of a matrix, basic operations, rank and determinant of a matrix • Introduce the new terms Basis and Dimension of vector space • Solve a System of Linear equations using the inverse of a matrix • Familiarize with transition matrices • Determine potency and index of

			nilpotency
14	MM6CBT01	Operations Research	• Understand the new term LPP • Identify a feasible solution, a basic feasible solution and an optimal solution using simplex method • Understand duality theorems and dual simplex method • Acquire the knowledge of Transportation and Assignment problems • Become familiar with various terms and rules used in the Theory of Games
15	MM1CMT01	Partial Differentiation, Matrices, Trigonometry and Numerical Methods	• Able to find the nth derivatives of functions • Understand the concept of indeterminate forms, their occurrence in problems and their evaluation • Understand how to separate a complex function into its real and imaginary parts • Acquire the knowledge of a matrix, basic operations, rank and determinant of a matrix
16	MM2CMT01	Integral Calculus and Differential Equations	• Acquire the basic ideas of double and triple integral. • Familiarized with different three dimensional surfaces and their properties. • Able to change variables in multiple integrals. • Understand the order, degree and various standard forms of differential equations and their solutions • Understand the basic knowledge of complimentary function and particular integral
17	MM3CMT01	Vector Calculus, Analytic Geometry and Abstract Algebra	• Able to understand the basic ideas of conics • Acquire the basic knowledge of vector differentiation and vector integration. • Compute the area of parametric surfaces in 3-dimensional space.

			• Demonstrate understanding of and the ability to work within various algebraic structures
18	MM4CMT01	Fourier Series ,Laplace Transform and Complex Analysis	• Able to compute sums, products, quotients, conjugate, modulus, and argument of complex numbers • Introduce elementary complex functions • Able to differentiate Fourier series and Laplace transforms

8.B.Com Co-operation & Taxation

Program Specific Outcomes

Programme specific outcome – B.Com Computer Application

B.Com. in Computer Applications is a 3- year undergraduate course designed to impart advanced learning to students in the discipline of Commerce, particularly involving the application of software technology for professional requirements, merging the academic specialties of Commerce and Computer Applications.

A B.Com degree is structured to provide the students managerial skills in disciplines related to commerce. Also, by the end of the program, students gain an in-depth knowledge on theory as well application in core subjects like accounting, law, statistics, finance, marketing etc...

Students opting to undergo a course in B.Com (Computer Applications) learn not only the subjects of Commerce, but are also taught to use the software technology for their professional requirements. The course bridging commerce and computer applications helps them to become smart and employable. Training in Computer Applications in the field of commerce is an extra mileage in placements. It has an innovative modern curriculum. Upon successful completion of the course, successful graduates interested in pursuing higher studies in the discipline may go for pursuing MBA, MCA, M.Com., M.Com., (CA), ACCA, MIB, MSW etc....

- After completing three years for Bachelors in Commerce (B.Com) program, students would gain a thorough grounding in the fundamentals of Commerce and Finance.
- The commerce and finance focused curriculum offers a number of specializations and practical exposures which would equip the student to face the modern-day challenges in commerce and business.
- The all-inclusive outlook of the course offer a number of value 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.
- Students will learn relevant financial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.
- Learners will be able to recognise features and roles of businessmen, entrepreneur, managers, consultant, which will help learners to possess knowledge and other soft skills and to react aptly when confronted with critical decision making
- Leaners will acquire the skills like effective communication, decision making, problem solving in day to day business affaires

Course Outcome

Course	Course Code	Sl. No	Subject	Outcome
	C01CRTO1	1	DIMENSIONS AND METHODO	· Helps to understand business and its role in society · To get a clear idea of Business ethics and CSR · To comprehend the business environment and various

			LOGY OF BUSINESS STUDIES	dimensions · Helps To familiarise Technology integration in business · helpsTo introduce the importance and fundamentals of business research
B.Com First Sem	C01CRTO2	2	FINANCIAL ACCOUNTING– I	Equip the students with the skill of preparing accounts and financial statements of various types of business units other than corporate undertakings
	C01CRTO3	3.	CORPORATE REGULATIONS AND ADMINISTRATION	Subject familiarise the students with the management and administration of joint stock companies in India as per Companies Act, 2013
	C01CMT01	4.	BANKING AND INSURANCE	The subject familiarize the students with the basic concepts and practice of banking and the principles of Insurance
B.Com Second Sem	C02CRTO4	5.	FINANCIAL ACCOUNTING – II	Helps students in the preparation of books of accounts of various types of business activities and application of important accounting standards
	C02CRTO5	6.	BUSINESS REGULATORY FRAMEWORK	The subject familiarise the students with the legal framework influencing business decisions**.**
	C02CRTO6	7.	BUSINESS MANAGEMENT	The subject familiarise the students with concepts and principles of management
	CC02CMT02	8.	PRINCIPLES OF BUSINESS DECISIONS	The subject is intended to familiarise the students with the economic concepts and principles underlying business decision making
B.Com Third Sem	CM03BAA01	9	CORE-7 MARKETING MANAGEMENT	help students to understand the concept of marketing and its applications. To make the students aware of modern methods and techniques of marketing
	CM03BAA02	10	CORE-8 FINANCIAL ACCOUNTING	amiliarize the students with the accounting principles and practices of various types of business other than companies
	CM03BAA03	11	CORE-3 E-COMMERCE AND GENERAL INFORMAT	To make the students familiar with the mechanism of conducting business transactions through electronic media.

			ICS	
	CM03BAA04	12	CORE-9 BUSINESS MANAGEMENT	familiarise the students with concepts and principles of Management
			CORE (OPTIONAL)-1 FINANCIAL MANAGEMENT (B.com Taxation)	o build a thorough understanding of the central ideas and theories of modern finance . To relate theory to practice so that students learn the practical applications of Financial Management concepts.
			CORE (OPTIONAL)-1 BASICS OF CO-OPERATION (B.com Co-operation)	oTo inculcate the principles of co-operation among the students. acquaint the students with the management and working of co-operatives
B.Com SEMESTER-IV	CM04BAA01	14	CORE-10. CAPITAL MARKET	give the students an overall idea about Capital market. familiarise the students with capital market operations in India
	CM04BAA02	15	CORE-11 CORPORATE ACCOUNTING	provide a thorough knowledge about the accounting of companies
	CM04BA901	16	COMMON - 4 ENTREPRENEURSHIP DEVELOPMENT AND PROJECT MANAGEMENT	o equip the students a craving for individual freedom, initiative and enterprise by pursuing self employment and small business entrepreneurship as a viable alternative to salaried employment.
	CM04BAA03	17	CORE-12 FINANCIAL SERVICES	rovide the students with an overall idea of financial services available in the country. reate an understanding about recent trends in financial services sector.
	CM04BBA02	18	CORE (OPTIONAL)-2	

Sem V	CM05BAA01	19	CORE-13 COST ACCOUNTING	miliarise the students with cost concepts make the students learn the fundamentals of cost accounting as a separate system of accounting.
	CM05CAA01	20	COMPLEMENTARY COURSE -1 ADVERTISING AND SALES PROMOTION	nake the students aware of the strategy, concept and methods of advertising and sales promotion.
	CM05BAA02	21	CORE-14 SPECIAL ACCOUNTING	cquaint the students with advanced accounting principles and procedures.
	CM05BBA02	22	CORE (OPTIONAL) – 3 COMPUTERISED ACCOUNTING	quip the students to meet the demands of the industry by mastering them with industry sought after computerised accounting packages. expose the students to computer applications in the field of accounting. develop practical skills in the application of Tally accounting package
	CM05DAP01	23	OPEN COURSE-FUNDAMENTALS OF ACCOUNTING	amiliarize the students with practical accounts concepts and its need in the present scenario.
SEMESTER-VI	CM06BAA01	24	CORE-15 APPLIED COST ACCOUNTING	acquaint the students with different methods and techniques of costing. nable the students to identify the methods and techniques applicable for different types of industries.
	CM06CAA01	25	COMPLEMENTARY COURSE-2 PRINCIPLES OF BUSINESS DECISIONS	miliarize the students with the economic principles and theories underlying various business decisions. equip the students to apply the economic theories in different business situations.
	CM06BAA02	26	CORE-16 PRACTICAL AUDITING	miliarize the students with the principles and procedure of auditing. enable the students to understand the duties and responsibilities of auditors and to undertake the work of auditing.

	CM06BAA03	27	CORE-17 ACCOUNTING FOR MANAGERIAL DECISIONS	quip the students to interpret financial statements. nable the students to have a thorough knowledge on the management accounting techniques in business decision making.
	CM06BBA02	28	CORE (OPTIONAL)-3	amiliarize students with database concepts and equip them to handle database management system for business firms.

2.POST GRADUATE PROGRAMMES

1. M A English Language and Literature

Programme Specific Outcomes

The master's degree programme offered by the department posits the following as the possible programme outcome at its successful completion.

To attain a profound understanding of English language and literature.

To have a renewed aesthetic understanding of literary works.

To have a comprehensive view of the various theoretical interventions at different periods of literature.

To have an in depth knowledge of literary and theoretical concepts.

To attain mastery over different ages of English literature.

COURSE OBJECTIVES AND OUTCOME OF THE M.A .ENGLISH PROGRAME FOR THE ACADEMIC YEAR 2019-20

Semester 1 - Core Course 1:

[EN010101] - Up Until Chaucer: Early Literatures in English

Objectives:

At the end of this course, the student will be able to make sense of the major themes in Ancient and Medieval English literature as an expression of Anglo-Saxon culture and society as it emerges into a Britain-consciousness; also, the student will be equipped to access and understand the personal experiences of people living in a society very different from our own. Course Description: What was English Literature like before Shakespeare? Before Chaucer? And from our current vantage point what was Chaucer and his peers doing? Through 5 modules, this paper offers a two-fold bird's eye-view: first, the literature of the Anglo-Saxons written over a thousand years ago and then, the standardizing creative consolidation initiated by Chaucer and his peers; a paradigm shift that made possible the emergence of English literature with a purpose and identity of its own. Module I is a sampling of early poetry. Module 2 offers a selection of early Prose and Drama. Module 3 wades through extracts from the first epic Beowulf and the iconic Romance Le Morte D'arthur along with a choice sequence of the early English Lyric. Module 4 is exclusively designated to familiarise the student with the varied oeuvre of Geoffrey Chaucer. Module 5 gives a feel of Chaucer's peers, JohnGower, Thomas Hoccleve and William Langland

Semester 1 - Core Course 2:

[EN010102] -Literatures of the English Renaissance

Total Credits: 4

Total Hours: 25

Weightage:

Objectives: The course is designed to familiarise the students with the literature, thought and culture of the Renaissance period in England, a historical watershed marking the transition from the medieval to the modern. It is also designed as a theoretical/critical reading of the era and the texts in the light of recent theoretical interventions like New Historicism and Cultural Materialism which had a special interest in Renaissance texts. Representative works of the period have been selected with a view to instilling in the students a capacity to appreciate Renaissance writings bearing the stamp of radical changes in the outlook and ways of life.

Course Outcome: The course comprising major genres like Drama, Poetry and Prose provides an introduction to the literature of the English Renaissance studied in a variety of historical contexts and discusses how the confluence of social, political and economic forces culminated in conditions conducive to the creation of an impressive volume of literature. It highlights how literary luminaries like William Shakespeare and Christopher Marlowe emerged and influenced each other leaving their mark on their own time and the time to come. The completion of the course has to enable the students to imbibe the true spirit of Renaissance and Humanism making them capable of identifying the relationship between Renaissance writings and its socio-political context.

Semester 1 - Core Course 3:

[EN010103] -Literatures of the English Revolution/ Enlightenment

Total Credits: 4

Total Hours: 25

Weightage:

Objectives: This course familiarizes the learner with the English literary texts which reflect the austere Puritan ideals of the late seventeenth century, the neoclassical vigour of the eighteenth century considerably influenced by the philosophy of the Enlightenment and the perspectival shift manifested in the transitional literature towards the end of this era

. **Course Outcome**: Module 1 offers a comprehensive account of the late seventeenth and the eighteenth century literary scenario drawing upon the significant social and the political developments of the times. How such events fostered the rise of new genres like the novel is unravelled. Further, the learners are familiarised with Ian Watt's perspective on the inception of this new genre in England. This module also introduces the learners to an in-depth critique of the philosophy of the Enlightenment. Module 2 acquaints the learners with the poetry of John Milton the epic poet of the late seventeenth century, the neoclassical satirists such as John Dryden and Alexander Pope, Aphra Behn the first professional woman writer of England, and Thomas Gray, the transitional poet. Module 3 dwells on the drama written during this span of time. Module 4 presents the acclaimed fiction of the aforementioned period. Module 5 accommodates the ground-breaking nonfictional works of the period.

Semester 1 - Core Course 4:

[EN010104] -Nineteenth Century English Literatures

Total Credits: 4

Total Hours: 25

Weightage:

Objectives:

The course aims to familiarize students with the fundamental premises of the Romantic Movement and Victorian literature, their theoretical and ideological frameworks, and the major trends and offshoots across various genres. A rough time span of one and a half centurywhich witnessed an initial flowering of Romanticism, followed by the rapid growth of industrialization, scientific thinking and materialism all of which find expression in the texts chosen for study.

Course Outcome:

The first module introduces the theoretical premises of the British Romantic Movement as well as the Victorian Age that chronologically follows the Romantic Era. The second module throws light on the historical significance of the Ode as a poetic form best suited to examine the subjective and individualistic imagination of the romantic poet which finds expression as most of the poems in this section are odes. The Third Module marks the shift to the Victorian Sensibility with increased attention being paid to the decline of the romantic sensibility, the growth of

reason, ascent of materialism etc. The fourth module deals with the best novels in the English language while the last one focuses on prose and Drama

Semester 1 – Core Course 5:

[EN010105] – Literary Criticism

Total Credits: 4

Total Hours: 25

Weightage:

Objectives:

To familiarize the students with the key concepts and texts of literary criticism ever since its emergence, and to provide theoretical familiarity with the range, approaches, and mechanics of critique.

Course Outcome:

The course should help the student to recognize the historical, political and aesthetic dimensions of the growth of literary criticism. Issues like canon formation, evolution of the genres, methods of literary analysis will all be discussed in the different modules. Concepts being discussed include classical western criticism from Plato, Aristotle Horace and Longinus, English Renaissance and neoclassical criticism, the 18th century trends, the romantic revolt, the Victorian tradition, the new critics, Eliot's critical positions, Psychoanalysis, myth/archetypal criticism, Russian Formalism, and Reader response theories.

Semester 2 – Core Course 6:

[EN010201] – Modernity and Modernisms

Total Credits: 4

Total Hours: 25

Weightage:

Objectives:

To familiarize the students with the literary trends of the early twentieth century in the context of the sensibility of literary modernism in the wake of the World War.

Course Outcome:

The course includes an introduction to the changed literary perspectives in the twentieth century, along with the social, economic and political background. Imperial expansion which had reached a boiling point, the onset of the World War I coupled with the attempts at creating a new world order remained some of the key issues. The impact of the Soviet experiment at the global level that needs to be read against the backdrop of the spread and influence of Marxism on a global scale calls for a radical review of world politics. This was followed by the rise of Fascism and Nazism, followed curiously by the shadow of doubt cast over communism. In the literary field reaction against Romanticism and Victorianism led to experimentation in writing in all genres. Starting from the poetry of World War I the movement traverses a wide range of concerns topics and forms of writing. The discussion also includes movements like the Avant Garde, the Pink Decade and so forth.

Semester 2– Core Course 7:

[EN010202] –Postmodernism and Beyond

Total Credits: 4

Total Hours: 25

Weightage:

Objectives: This course aims to acquaint the learners with the postmodern works of literature which defy categorisation and prove to be experimental in nature, subverting what is conventionally revered as the norm. The learners are to be familiarised with the eclectic dimensions of postmodern thought as reflected in these literary works in which the boundaries that demarcate the different genres are often blurred. Such literature eludes fitting into the rigid frames of nomenclature and rejects the concepts of objectivity, absolute truth and the notion of the stratification into the high and the low culture. Further, it is keenly perceptive and critical of the underlying ideologies that nurture oppressive institutions. The emphasis is on acknowledging the heterogeneity of thought and articulation.

Course Outcome: Module I familiarises the learners with the theoretical concepts of postmodernism drawing upon Jean Francois Lyotard's notions. Barry Lewis's essay dwells on

the stylistic aspects of postmodern literature. Jeffrey T. Nealon's "Preface" considers the concept of post-postmodernism and briefly explores the current scenario. The second module offers a compilation of the diverse postmodern poetry by Frank O'Hara, John Ashberry, Tony Harrison, Michael Palmer, Allen Ginsberg, Carol AnnDuffy and Adrienne Rich. The third and the fourth modules present novels by writers from Kurt Vonnegut to William Gibson, which facilitate the learners to trace the evolution of postmodern fiction over the decades with its culmination in the cyberpunk. The fifth module presents postmodern playsby Edward Bond, Sam Shepard and Tom Stoppard, which employ significant themes and novel techniques.

Semester 2 – Core Course 8:

[EN010203] -American Literatures

Total Credits: 4

Total Hours: 25

Weightage:

Course Objectives:

This course seeks to introduce the students to the most important branch of English literature belonging to the non- British tradition, The course attempts to provide detailed information to the student regarding the processes and texts chiefly responsible for the evolution of American Literature as a separate branch possessing characteristic features which sets it apart from others

Course Outcome

To acquaint the students with some of the major conflicts, struggles and movements that are closely connected with the experiences of a group of people struggling to establish themselves as a nation.

Semester 2 – Core Course 9:

[EN010204] -English Language History and Contemporary Linguistics

Total Credits: 4

Total Hours: 25

Weightage:

Objectives:

To inculcate in the students awareness about the basic concepts of linguistics, the scientific study of language after initiating them into the history of English language.

Course Outcome

The course, divided into five modules covers the important areas in linguistics and updates the pupil on the most recent advances in the theory of language study. The course has also taken into Consideration the necessity to introduce the historical perspective of English language though not in detail. This should ideally prepare the student at one level with modern notions and concerns in the field of linguistics.

Semester 2 - Core Course 10:

[EN010205] -Thinking Theory

Total Credits: 4

Total Hours: 25

Weightage:

Objectives: This course aims at introducing students to certain core aspects of what is currently designated as 'literary theory' and also provideexposure to select current developments in this domain.

Course Outcome: Conceived as interfaces, the course has 5 modules; ideally to be taught in the order in which the readings are listed. Module 1puts forth 3 readings which will serve as signposts that mark the moments that retrospectively are termed as turns to/within 'theory' – Jonathan Culler's 'over-view essay' on the emergence of 'Theory', Levis-Strauss' application of Saussurean Theory, and Derrida's critique of Levis-Strauss. Module 2situates the theoretical ruminations on Authorship and Discourse:Roland Barthes' "The Death of the Author" and Michel Foucault's "What Is an Author?" problematises the hallowed assumptions of Literary Criticism; Robert J. C. Young's "Poems That Read Themselves" takes the unsettling deconstructive project of Poststructuralism forward. Module 3seeks to frame a reference wherein Psychoanalysis tackles issues pertaining to the Unconscious and Cognition:Shoshana Felman's "Beyond Oedipus: The Specimen Story of Psychoanalysis" traces the shift from Freud to Lacan; "The Phantom of Hamlet or the Sixth Act: Preceded by the Intermission of "Truth"" by Nicolas Abraham and Nicholas Rand is an interface where Literary Creativity takes Theory per se as its content!; Julia Kristeva's "Approaching Abjection" throws light on how insights from psychoanalysis enrich our understandings of contemporary [literary] cultures. Module 4has three readings, which in tandem present a discussion platform that goes beyond the normative heterosexual assumptions of Identity and even Feminism – in fact it Queers the Gender dynamic: Judith Butler's "Performativity, Precarity and Sexual Politics", Judith Halberstam's "Queer Temporality and Postmodern Geographies" and Eve Sedgwick's"Paranoid Reading and Reparative Reading",all are focused on the Liminality and Transitivity that are often overlooked to shore up the normative Male-Female dynamic. Module 5is in many ways a 'Post-postcolonial Turn': Critical Race/Ethnic Studies.Inencounteringbell hooks'two short pieces, "Postmodern Blackness" & "Marginality as a Site ofResistance." along with Stuart Hall's "Gramsci's

Relevance for the Study of Race and Ethnicity" and Barbara Christian's "The Race for Theory", it is hoped that the student/reader will be illumined as to the way the [dominant-normative] Self disavows its encounter with the Othered-Marginal. Module 1 [Change of St

MA English

Semester 3

Core Course 11: PC 11 – American Literature

Objectives:

.The objectives of the course include an introduction to the most important branch of English literature of the non-British tradition. It seeks to provide an overview of the processes and texts that led to the evolution of American literature as an independent branch or school of literature.

Course Outcome: The course covers the entire period from the time of early settlers, through the westward movement to the contemporary period. American literature is integrally connected with the experiences of a people struggling to establish themselves as a nation. Questions of individualism, quest for identity, political freedom from Britain and cultural freedom from the European tradition have marked American literature from time to time. The emergence of black literature and other ethnic traditions is another major hallmark of American writing. All these will form the basic analytical component of this course. American Renaissance, American War of Independence, Transcendentalism, American Romanticism, Dark Romanticism, Frontier Experiences, the Civil War, Modernism, Feminism, Regional patterns—Southern Writers—New England Writers—Western Writers—Mid-Western Writers, Ethnicity—Jewish, Native, Mountain Literature, Great Depression and the Great Dust-bowl disaster would be some of the thematic concerns of the course.

MA English

Semester 3

Core Course 12: PC 12 – Cultural Studies

Objectives:

To introduce students to the terms, analytical techniques, and interpretive strategies commonly employed in Cultural Studies. Emphasis is on overt interdisciplinary approaches to exploring how cultural processes and artefacts are produced, shaped, distributed, consumed, and responded to in diverse ways.

Course Outcome: The field of Cultural Studies has been described as a ―simmering stew of ideas, voices and lives of people all over the world. "It is ―a tendency across disciplines rather than a discipline itself." By transgressing disciplinary boundaries, Cultural Studies suggests a "remapping of the humanities." The content, focus and approach determine the methodology of the field. The first module charts out the terrain of Cultural studies through two seminal articles from the founding figures Raymond Williams and Stuart Hall; and a discussion of the nature of

culture, and high and low culture by Simon During. The second module focuses on issues of what constitutes culture, as it is discussed in the academia. The focus is on how different versions and formulations as to what culture is get accommodated in Cultural Studies. The third module frames the ways in which the tools that Cultural Studies provides are specifically deployed to analyse specific 'artefacts' that circulate in society. The fourth module offers samples that reveal how Cultural Studies has been adapted into the broad Indian context. The final module attempts a localisation of the insights gained in the preceding modules. It situates Cultural Studies in the context of Kerala, to show how such analyses can broaden our insight into our immediate life-world.

MA English

Semester 3

Core Course 13: PC 13 – Gender Studies

Objectives: The objectives of this course include making the student familiar with the emergence and growth of the notion of gender as a concept central to the reading of literature. It introduces a wide variety of theoretical, critical and creative works that define and redefine the concept as it is understood in contemporary society. At the completion of the course, students should be able to understand gender as a complex concept that is influenced and (re) shaped by history, the current moment, culture, and society; and engage with gender as a concept that is not fixed but fluid. Students should also be able to cite and use important theories and methodologies to analyze texts.

Course Outcome: This course introduces students to modes of literary criticism and interpretation that focus on the representations of women and men, constructions of femininity and masculinity, and sexual politics. Feminist theorists identified the distinction between sex and gender and defined gender as a social rather than a biological construct. Gender theory came initially as part of feminist theory but now includes the investigation of all gender and sexual categories and identities. A primary concern in gender studies is the manner in which gender and sexuality are discussed. Gender theory is postmodern in that it challenges the paradigms and intellectual premises of inherited norms. It also takes an activist stance through interventions and alternative epistemological positions meant to change the social order. Gender studies and queer theory explore issues of sexuality, power, and marginalized populations in literature and culture. Much of the work in gender studies and queer theory, while influenced by feminist criticism, emerges from post-structural interest in fragmented, de-centered identities, deconstruction of meaning and psychoanalysis.

MA English Semester 3 Core Course 14: PC 14 – Modes of Fiction

Objectives: The main objective of this course is to familiarise the student with the various modes of narrative fiction attempted across centuries, continents and languages. It is expected

that the pupil will be introduced to the various schools, influences and narrative devices that shaped narrative fiction in its present form.

Course Outcome: The course includes a reading of some of the major theoretical interpretations of the narrative, alongside a thorough reading of some of the most significant and path breaking works of creative literature. Narrative fiction had its origins in the folk story telling tradition, even as in the present form the novel in all its varied aspects to this day remains the most popular and widely read literary form, thanks perhaps to the use of the medium of prose, the medium of everyday conversation. This apparently simplistic explanation need not deter us from taking note of the more complex and ideological issues relating to form and the political import of the extraordinary flexibility the novel shows at the thematic level. In other words the course should teach the student why Lennard Davis described novel as a compulsory addiction. The course offers a sampling of short fiction; the folk story-telling tradition; and Asian, African, Latin American, European, British, and American fiction. One module comprises exclusively of fiction authored by women writers

MA English Semester 3 Core Course 15: PC 15 – Texts and Performance

Objectives: The objectives of the course include facilitating an understanding of the basic structural and thematic patterns that govern the poetic process, especially in its relation to the performative or the theatrical.

Course Outcome: The interface between the verbal and the visual is the area under discussion here. Drama, Theatre, Performance and performativity need to undergo close scrutiny here. One cannot disregard the cinematic medium in a study of performance. Marginalized theatres, dealing with issues like gender, ethnicity, etc. need to be introduced. The development of theatre from classical times, Anti-Aristotelian notions like Alienation Effect, the Indian notion of Rasa etc. are to be discussed in connection with the texts. Though seemingly different, Expressionism and similar modes of theatrical performance should be made part of classroom discussion.

MA English Semester 4 Core Course 16: PC 16 – Literature and the Empire

Objectives: To introduce the students to the discursive nature of colonialism, and the counter-discursive impulses of postcolonial theory, narratives and performance texts.

Course Outcome: The course attempts to cover through representative texts the writing, reading and critical-theoretical practices based on the colonial experience. While a major segment of the course addresses the consequences of European expansion and the creation and exploitation of the "other" worlds, the course also addresses "internal colonisations" of diverse kinds, including the double colonization of women of colour. Some of the studies require the students to revisit texts they have encountered in previous semesters (The Tempest, Heart of Darkness, A Passage to India) The students are expected to acquire familiarity with -- and the ability to define and use -- the terminology specific to colonial and postcolonial discourses. The introductory and reference volumes in the reading list will be helpful in this respect (Key Concepts in Postcolonial Studies, Beginning Postcolonialism). An extract from Gayatri Spivak's "Can the Subaltern Speak?" has been included, in spite of the density of the essay. The text is of seminal significance to the field. It has been elucidated by different scholars. Spivak clarifies her

arguments in several of her interviews (The Spivak Reader carries an excellent interview). Reference to the full version of the essay would be profitable.

MA English Semester 4 Elective : PE 01 – Modern European Drama

Objectives: To familiarize the student with modern European Drama in terms of topics, perspectives, and dramatic literature.

Course Outcome: This paper contains representative works to acquaint the student with the social and cultural contexts that inform modern European Drama. Beginning with the decline of romanticism and the rise of realism, the paper discusses how realism which, was a reaction against the illusionistic romantic stage, was critiqued by the later practitioners as illusionistic in itself. The paper contains representative plays of the Realistic and Naturalistic traditions including problem plays. It also familiarizes the student with the relationship between realism and social revolution as well as realism and anti-illusionism. The rise of modernism in theatre, and the rise of the director and stage designer are addressed. The selection contains representative works of epic theatre, absurd theatre, theatre of cruelty and poor theatre. The paper also traces the rise of theories like Marxism, Psychoanalysis as well as developments in Sociology and the Physical Sciences, and how they shaped the modernist sensibility. The student is also encouraged to revisit the ideological foundations of modernism. The student is to be acquainted with how the diversified movements in post-modernist theatre are informed by the theatre's increasing propensity to self-consciousness besides discussing poststructuralist theories and feminist theatre, environmental theatre, multicultural theatre, performance theories, threat from the cinema and the future of theatre.

MA English Semester 4 Elective : PE 06 – Dalit Studies

Objectives: To familiarize the student with the development of Dalit writing in different regions of India. **Course Outcome**: Most of the selections are translations into English from regional languages. Hence, we have Dalit writings from Marathi, Punjabi, Gujarati, Telugu, Kannada, Tamil, and Malayalam. The writings span from the period of colonial modernity through nationalist movement, independence, liberal democracy, cultural nationalism and globalization. An interrogation of brahmanic culture, an assertion of equality and human rights, an impulse to transcend the centre-margin dichotomy, and an aspiration for dignity and political power run through Dalit writings.

MA English Semester 4 Elective : PE 07 – The Public Sphere and Its Contemporary Context

Objectives: To introduce the student to the concept of the public sphere, and to enable him/her to reflect on critical issues related to everyday life, opinion and individual/social rights.

Course Outcome: The concept of the public sphere is introduced through a short article (encyclopaedia article) by Habermas. Habermas's later writings amplify and clarify the positions (Structural Transformation of the Public Sphere; "Further Reflections on the Public Sphere"). This is accompanied by two articles that provide glosses, and extend the concept. The texts included in different modules represent a sampling of issues (Censorship, Borders, Surveillance, Military aggression, the market, corporate control, patriarchy, and sexuality/gender). The selections examine neoliberal impulses, changing dynamics of democracy, the media, and new

models of commerce. The writings need to be contextualized in terms of supplementary readings suggested in the reading list. The dynamic of the concepts need to be expanded to the areas of environmental sensitivity, law and justice and various other considerations.

MA English Semester 4 Elective : PE 08 – The Indian Poetic Tradition

Objectives: The aim of the course is to familiarise the students with the major texts of the Indian tradition in the light of Indian poetic principles.

Course Outcome: The eight major schools of Indian Aesthetics are to be introduced. The two cardinal schools viz. Rasa and dhwani are to be discussed in detail. The students must be familiar with the strong geopolitics behind Tamil poetics. Texts have to be discussed in the light of the theories. Questions pertaining to the dominant aesthetic sentiment, the suggestive potential of the language of the text, and so on need to be raised. Alternative readings have to be encouraged. Issues like the ideological ramifications of the erotic sentiment as a tool for the containment of women, the heroic sentiment as a mechanism for authenticating kingship and social stratification, the distinction of language into Sanskrit for noble men and Prakrit for menial characters and women, the division of space into domestic and exterior and its significance in the domestication of women, the significant absence of women (with the possible exception of Avvayyar) etc. are to be highlighted. Students may be encouraged to read Romila Thapar's analysis of Shakuntalam to see the drastic difference in the portrayal of women in the epic and the play. How Sanskrit became an Orientalist imperial weapon also may be analysed.

2. MA Malayalam

Program Specific Outcomes

മലയാളഭാഷയുടെയും സാഹിത്യത്തിന്റെയും സൗന്ദര്യശാസ്ത്രപരവും സാംസ്കാരികവുമായതലങ്ങൾ സൂക്ഷ്മമായും വിമർശനാത്മക്കമായും അപഗ്രഥിക്കുവാനുള്ള ശേഷി നേടുക.

അക്കാദമികമായും സർഗ്ഗാത്മകമായും ഭാഷ പ്രയോഗിക്കുന്നതിനുള്ള നൈപുണി വർദ്ധിപ്പിക്കുക.

സമകാലികലോകത്തിൽ ഭാഷ നേരിടുന്ന വെല്ലുവിളികൾ അഭിസംബോധനചെയ്യാൻ പ്രാപ്തരാവുക.

ഗവേഷണമേഖലയിൽ ഗൗരവബുദ്ധിയോടെ ഇടപെടുന്നതിനാവശ്യമായ സൈദ്ധാന്തിക ധാരണകൾ വികസിപ്പിക്കുക.

ഭാഷയെയും സാഹിത്യത്തെയും ഇതരവൈജ്ഞാനികമേഖലകളുമായി ബന്ധിപ്പിച്ച് പരിവർത്തനോന്മുഖമായ അന്വേഷണങ്ങൾ നടത്തുന്നതിനു പരിശീലനം നേടുക.

Course Outcomes

SL. NO	Sub Code	Course Name	Course Outcome
1	PC1	കവിതാപ്രാചീനം, മധ്യകാലം	മലയാളകവിതയുടെ രൂപവത്കരണത്തെ സ്വാധീനിച്ച വിവിധപാരമ്പര്യങ്ങളെ തിരിച്ചറിയുന്നു. കവിതയുടെ വാമൊഴി പാരമ്പര്യത്തെയും അതിലെ സാംസ്കാരികമുദ്രകളെയും ഗൗരവമായി സമീപിക്കുവാൻ പ്രാപ്തിനേടുന്നു.
2	PC2	മലയാളഭാഷാ : ചരിത്രവും വർത്തമാനവും	ലോകഭാഷകളിൽ സംസാരിക്കുന്ന ആളുകളുടെ എണ്ണം കൊണ്ട് 26-ാം സ്ഥാനത്തുനിൽക്കുന്ന മലയാളത്തിന്റെ ഗരിമ മനസ്സിലാക്കുന്നു. നാടിന്റെ വികസനവും മാതൃഭാഷയും തമ്മിലുള്ള ബന്ധം മനസ്സിലാക്കുന്നു.
3	PC3	കഥാസാഹിത്യം	ആഖ്യാനരൂപമെന്ന നിലയിൽ ചെറുകഥയുടെ വളർച്ച, അത് സാധ്യമാക്കിയ സാംസ്കാരികപശ്ചാത്തലം എന്നിവ മനസ്സിലാക്കുന്നു. കൂടാതെ അച്ചടി, ആനുകാലികപ്രസിദ്ധീകരണങ്ങൾ, അഭ്യസ്തവിദ്യരായ പുതുവായനസമൂഹം എന്നിവ സാംസ്കാരികകേരളത്തെ സൃഷ്ടിക്കുന്നതിൽ വഹിച്ച പങ്ക് തിരിച്ചറിയുന്നു.
4	PC4	സാഹിത്യചരിത്രവിജ്ഞാനീയം	പാശ്ചാത്യവും പൗരസ്ത്യവുമായ സാഹിത്യരൂപങ്ങളെ അവയിൽ പ്രവർത്തിക്കുന്ന രൂപപരമായ ഘടകങ്ങളുടെ അടിസ്ഥാനത്തിൽ അപഗ്രഥിക്കുവാൻ പഠിക്കുന്നു. സാഹിത്യസങ്കേതങ്ങൾക്ക് ആധുനികതാവാദത്തിന്റെ ഭാഗമായി സംഭവിച്ച വിച്ഛേദത്തിന്റെ അടിസ്ഥാനത്തിൽ പുതിയ കാവ്യരൂപങ്ങളെ വിലയിരുത്തുവാൻ പ്രാപ്തി നേടുന്നു.
5	PC5	സംസ്കൃതം : ഭാഷയും സാഹിത്യവും	സംസ്കൃതസാഹിത്യത്തിന്റെ സൗന്ദര്യപരമായ അംശങ്ങൾ പരിചയപ്പെടുന്നു. സംസ്കൃതവ്യാകരണം, മൂലകൃതികളുടെ പരിഭാഷകൾ, കേരളീയരുടെ സംസ്കൃതരചനകൾ ഇവ പരിചയപ്പെടുന്നു.
6	PC6	ആധുനികമലയാളകവിത-ഒന്നാംഘട്ടം	മലയാളകവിതയുടെ ചരിത്രവഴികളെക്കുറിച്ച് മനസ്സിലാക്കുന്നു. ഇംഗ്ലീഷ് വിദ്യാഭ്യാസം, അച്ചടി, ആനുകാലികങ്ങളുടെ ആവിർഭാവം, പാഠപുസ്തകക്കമ്മറ്റി, ദേശീയതയെക്കുറിച്ചുള്ള സങ്കല്പങ്ങൾ, മാനവികതയെക്കുറിച്ചുള്ള കാഴ്ചപ്പാടുകൾ എന്നിങ്ങനെ വിഭിന്നങ്ങളായ ചരിത്രസന്ദർഭങ്ങളിലൂടെയും വിചാരധാരകളിലൂടെയും കടന്നുവരുന്ന മലയാളകവിതയുടെ ശക്തിസൗന്ദര്യങ്ങൾ തിരിച്ചറിയുന്നു.
7	PC7	ഭാഷാശാസ്ത്രം	ഭാഷയുടെയും ഭാഷണത്തിന്റെയും സകലസാധ്യതകളെയും തിരിച്ചറിഞ്ഞ് അപഗ്രഥിക്കാൻ കഴിയുന്നു. ഇന്ത്യൻഭാഷകളെ, പ്രത്യേകിച്ച് ദ്രാവിഡഭാഷകളെ ബഹുകാലികമായി മനസ്സിലാക്കുവാനും കഴിയുന്നു.
8	PC8	ഭാരതീയസാഹിത്യസിദ്ധാന്തങ്ങൾ	പൗരസ്ത്യകാവ്യമീമാംസയുടെ അടിസ്ഥാനശിലകളായ കാവ്യതത്വങ്ങൾ പരിചയപ്പെടുന്നതിലൂടെ സാഹിത്യത്തിന്റെ ആസ്വാദനം, അപഗ്രഥനം, പഠനം, മൂല്യനിർണ്ണയം എന്നിവയ്ക്ക് പഠിതാക്കൾ പ്രാപ്തരാകുന്നു.
9	PC9	പാശ്ചാത്യസാഹിത്യസിദ്ധാന്തങ്ങൾ	ഭാരതീയസാഹിത്യദർശനങ്ങളോടൊപ്പം പാശ്ചാത്യസാഹിത്യസിദ്ധാന്തങ്ങളെ പരിചയപ്പെടുന്നു. മലയാളത്തിലെ ആധുനികതയിൽ അവ വഹിച്ച പങ്ക് മനസ്സിലാക്കുന്നു.

10	PC10	മലയാളനോവൽ	മലയാളനോവലിന്റെ ഉദ്ഭവത്തിനു നിദാനമായ പശ്ചാത്തലം, മലയാളത്തിലെ ആദ്യകാലനോവലുകൾ മുതൽ സമകാലികനോവൽവരെ പ്രമേയസ്വീകരണത്തിലും കഥാപാത്രനിർമ്മിതിയിലും ആഖ്യാനത്തിലും സ്വീകരിച്ചിട്ടുള്ള സമീപനഭേദങ്ങൾ പരീക്ഷണങ്ങൾ ഇവയെ പഠനവിധേയമാക്കുന്നതിലൂടെ കേരളത്തിന്റെ സംസ്കാരചരിത്രത്തെ മനസ്സിലാക്കുന്നു.
11	PC11	ആധുനികമലയാളകവിത-രണ്ടാം ഘട്ടം	ആധുനിക-ആധുനികാനന്തരകവിതകളിൽ ഉണ്ടായിട്ടുള്ള ഭാവുകത്വവ്യതിയാനങ്ങളുടെ സൂഷ്മപഠനം സാധിക്കുന്നു.
12	PC12	മലയാളഭാഷാവ്യാകരണം	മലയാളവ്യാകരണപഠനങ്ങളിലെ സിദ്ധാന്തങ്ങളും സമീപനങ്ങളും മനസ്സിലാക്കി വ്യാകരണസങ്കല്പങ്ങളെ വിമർശനാത്മകമായി വിലയിരുത്തുവാൻ പ്രാപ്തിനേടുന്നു.
13	PC13	മലയാളനിരൂപണം	മലയാളനിരൂപണത്തിന്റെ രൂപവത്കരണവും ചരിത്രവും സമഗ്രമായി മനസ്സിലാക്കുന്നു. നിരൂപണത്തിന്റെ വൈജ്ഞാനികവും കാലികവും സാഹിത്യപരവുമായ പൊതുസ്വഭാവങ്ങളും വ്യത്യസ്തതകളും തിരിച്ചറിഞ്ഞ് പ്രായോഗികനിരൂപണത്തിൽ ശേഷിയുള്ളവരാകുന്നു.
14	PC14	ദൃശ്യകലാസാഹിത്യം	സമൃദ്ധമായ ദൃശ്യകലാപാരമ്പര്യമുള്ള കേരളത്തിൽ, സംസ്കാരത്തിന്റെയും പാരമ്പര്യത്തിന്റെയും പ്രതിനിധാനങ്ങളായ ഈ കലാരൂപങ്ങളെ വിശകലനം ചെയ്യാനും വിലയിരുത്താനും വിദ്യാർത്ഥികൾ പ്രാപ്തി നേടുന്നു.
15	PC15	കേരളസംസ്കാരം	കേരളത്തിന്റെ സാമൂഹികവും സാംസ്കാരികവുമായ വൈവിധ്യത്തെ അടയാളപ്പെടുത്തുക, വിവിധകാലങ്ങളിൽ രൂപംകൊണ്ട അധികാരഘടനകളുടെ സ്വഭാവം പരിശോധിക്കുക, സാമൂഹികമായ പരിവർത്തനം ലക്ഷ്യംവച്ച് ഓരോ കാലത്തുമുണ്ടായ പ്രസ്ഥാനങ്ങളെ പരിചയപ്പെടുക, അവയുടെ പ്രത്യയശാസ്ത്രപരമായ സങ്കീർണ്ണതകൾ വിശകലനം ചെയ്യുക, ഭാഷയുടെയും സാഹിത്യത്തിന്റെയും കലയുടെയും മേഖലയിലുണ്ടായ ചനലങ്ങൾ തിരിച്ചറിയുക-എന്നിവ പ്രാപ്തമാക്കുന്നു.
16	PC16	നാടകവും സിനിമയും	ജനങ്ങളുമായി കൂടുതൽ സംവദിക്കുന്നകലാരൂപങ്ങളെന്ന നിലയിൽ മനുഷ്യാനുഭവങ്ങളോടും സാമൂഹിക യാഥാർത്ഥ്യങ്ങളോടും ഈ കലാരൂപങ്ങൾ എങ്ങനെ പ്രതികരിക്കുന്നു എന്ന് തിരിച്ചറിയുന്നു.
17	PE1	ജനസംസ്കാരപഠനം	ജനസംസ്കാരവും ജനജീവിതവും തമ്മിലുള്ള പരസ്പരബന്ധവും അതിൽവന്നുചേരുന്ന മാറ്റങ്ങളും കേരളീയപശ്ചാത്തലത്തിൽ തിരിച്ചറിയുന്നു. ജനസംസ്കാരത്തിന്റെ ഊർജ്ജം സാഹിത്യമുൾപ്പെടെയുള്ള നമ്മുടെ മറ്റു ജീവിതവ്യവഹാരങ്ങൾക്ക് കരുത്തുപകരുന്നുണ്ടോ എന്നു പരിശോധിക്കാൻ വിദ്യാർത്ഥികൾ പ്രാപ്തരാകുന്നു.
18	PE2	പരിഭാഷ: സിദ്ധാന്തവും പ്രയോഗവും	ഭാഷാശാസ്ത്രത്തിന്റെ മുഖ്യപ്രയോഗമേഖലകളിൽ ഒന്നെന്ന നിലയ്ക്കും ഒരു രാഷ്ട്രീയസാംസ്കാരികവ്യവഹാരം എന്ന നിലയ്ക്കും ഭാഷയെ പരിചയപ്പെടുന്നു. അതതുകാലത്തെ രാഷ്ട്രീയ, സാമൂഹിക, സാംസ്കാരിക ചരിത്രവുമായും പരിഭാഷയ്ക്കുള്ള അഭേദ്യമായ ബന്ധം മനസ്സിലാക്കുന്നു. മലയാളത്തിൽ നിന്ന് ഇംഗ്ലീഷിലേയ്ക്കും തിരിച്ചും വിവർത്തനം നടത്തുവാനുള്ള പ്രാപ്തി കൈവരിക്കുന്നു.
18	PE3	സ്ത്രീപക്ഷരചനകൾ	സ്ത്രീപക്ഷരചനകളെ ചരിത്രാത്മകമായ രീതിശാസ്ത്രമുപയോഗിച്ച് പഠിക്കുന്നു. സ്ത്രീപക്ഷരചനയുടെ ചരിത്രം, സൈദ്ധാന്തികൾ, സ്ത്രീരചന- സ്ത്രീപക്ഷരചന എന്നിവയുടെ വ്യത്യസ്തതകൾ മനസ്സിലാക്കുന്നു.

19	PE4	പുതുസാഹിത്യസമീപനങ്ങൾ	വ്യവസ്ഥാപിതജ്ഞാനസംഹിതകൾക്ക് കാതലായമാറ്റങ്ങൾ സംഭവിച്ചതിനുപിന്നിലെ കാരണങ്ങൾ പ്രാന്തവത്കൃതമുഖ്യധാരയിലേക്ക് എത്തിയതിനുപിന്നിലെ ചരിത്രയാഥാർത്ഥ്യം ഇവ ബോധ്യമാകുന്നു. ലോകത്തിൽ സംഭവിച്ച ആശയവ്യതിയാനത്തെ മനസിലാക്കുന്നു.
		പ്രോജക്ട്	സാഹിത്യം, സംസ്കാരം എന്നീ മേഖലകളിൽ ഗവേഷണതാത്പര്യം വളരുന്നു.

3. & 4. M.ScMathematics (Aided & Self Financing)

PROGRAM SPECIFIC OUTCOME

The program helps students to have a thorough and deep knowledge in pure and applied Mathematics, thus helping students to crack NET, SET and other competitive exams.
It also provides a more complete and logic framework in almost all areas of basic Mathematics.

After studying M.Sc. Mathematics students have the following skills

- Learn mathematics meaningfully and deeply.
- Acquire manipulative skills.
- Do problems using thumb rules.
- Able to handle a wide range of topics in mathematics.

COURSE OUTCOMES

ME010101 & ME010201 - ABSTRACT ALGEBRA

- Give an insight into the axiomatic theories of abstract algebra
- To have a deeper knowledge in rings and fields
- Problem solving in algebra with certain techniques

ME010102- LINEAR ALGEBRA

8. Use computational techniques and algebraic skills essential for the study of systems of linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors, orthogonality and diagonalization.
9. Use visualization, spatial reasoning, as well as geometric properties and strategies to model, solve problems, and view solutions, especially in R^2 and R^3, as well as conceptually extend these results to higher dimensions.
10. Critically analyse and construct mathematical arguments that relate to the study of introductory linear algebra.
11. Communicate and understand mathematical statements, ideas and results, both verbally and in writing, with the correct use of mathematical definitions, terminology and symbolism

ME010103 & ME010202 - TOPOLOGY

7. To have deeper knowledge on metric spaces.
8. To understand terms, definitions and theorems related to topology
9. To understand structure of topological spaces through homeomorphism and continuity

ME010104 - REAL ANALYSIS

6. Effectively write mathematical solutions in a vivid and clear manner.
7. Effectively use the information needed to prove theorems and establish mathematical results

ME010105 - GRAPH THEORY

6. To understand and apply the fundamental concepts in graph theory
7. To apply graph theory-based tools in solving practical problems
8. To improve the proof writing skills

ME010203- NUMERICAL ANALYSIS WITH PYTHON

9. Become familiar with Python 3 software.
10. Understand the basic steps of analyzing data with Python software.
11. Learn the importance of Python for data analysis and data science.

ME010204 & ME010301 - COMPLEX ANALYSIS

6. Explain the fundamental concepts of complex analysis and their role in modern mathematics and applied contexts
7. Demonstrate accurate and efficient use of complex analysis techniques
8. Demonstrate capacity for mathematical reasoning through analysing, proving and explaining concepts from complex analysis
9. Apply problem-solving using complex analysis techniques applied to diverse situations in physics, engineering and other mathematical contexts.

ME010205 - MEASURE THEORY & INTEGRATION

4. Make the student enable to understand the theoretical basis of probability and statistics.
5. Understanding of the theory based on examples of application.
6. To understand the basics of measure theory including fundamental theorems and to be familiarise with the concept involving theory of integration in a wider view.

ME010302 - PARTIAL DIFFERENTIAL EQUATIONS

3. Use knowledge of partial differential equations (PDEs), modelling, the general structure of solutions, and analytic and numerical methods for solutions.
4. Formulate physical problems as PDEs.
5. Understand analogies between mathematical descriptions of different (wave) phenomena in physics and engineering.
6. Classify PDEs, apply analytical methods, and physically interpret the solutions.
7. Solve practical PDE problems with finite difference methods, implemented in code, and analyse the consistency, stability and convergence properties of such numerical methods.
8. Interpret solutions in a physical context.

8. To have ideas of differentiation and integration in a coherent and meaningful manner and use appropriate techniques for solving related problems and for establishing theoretical results.
9. Demonstrate ability to think critically by proving mathematical conjectures and establishing theorems from differential and integral calculus.

ME010303 - MULTIVARIATE CALCULUS & INTEGRAL TRANSFORMS

3. Enable to calculate partial derivatives, derivatives, extremum values and can calculate double, triple and line integrals.
5. To learn techniques applying Fourier and Laplace transforms to solve ODE and PDE

ME010304 - FUNCTIONAL ANALYSIS

3. Enable to explain the fundamental concepts of functional analysis
4. Understand the concepts of Banach and Hilbert spaces

ME010305 - OPTIMIZATION TECHNIQUES

3. Be able to model engineering minima/maxima problems as optimization problems
4. Understand the different methods of optimization and be able to suggest a technique for a specific problem.
5. Understand how optimization can be used to solve industrial problems of relevance to the chemical and oil industries.

ME010401 - SPECTRAL THEORY

3. To apply reasoning on functional analysis concepts and to have a wider view
4. To be familiar with Hahn-Banach theorem and its consequences

ME010402 - ANALYTIC NUMBER THEORY

3. To get a wider view on theory of prime numbers
4. Learn to handle different multiplicative and complete multiplicative functions

ME800401- DIFFERENTIAL GEOMETRY

3. Promotion of creative and inductive thinking.
4. Be able to identify and solve problems that require the use of vector calculus and differential geometry
5. Know how to use formal mathematical reasoning and write mathematical proofs when necessary
6. Demonstrate ability to cover a topic independently and to present their results

ME800402- ALGORITHMIC GRAPH THEORY

7. Understand the basics of graphs, weighted graphs and be able to relate them to practical examples.
8. Use effectively algorithmic techniques to study basic parameters and properties of graphs.
9. Design efficient algorithms for various optimization problems on graphs.

ME800403- COMBINATORICS

3. Analyse combinatorial objects with certain properties
4. Solve problems related to construction methods and enumeration of objects with certain properties

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5.M.Sc Physics

M.Sc. PROGRAMME IN PHYSICS

Program Specific Outcomes

- Acquire the knowledge with facts and figures related to various branches in physics such as Classical Mechanics, Electrodynamics, Quantum Mechanics, Electronics, and Mathematical Physics etc.
- Understand the basic concepts, fundamental principles, and the scientific theories related to various physical phenomena and their relevancies in the day-to-day life.
- Acquire the skills in handling scientific instruments, planning and performing in laboratory experiments.
- Develop the skills of observations and drawing logical inferences from the scientific experiments.
- Developed scientific outlook in all aspects related to life.
- Improve computer literacy and a working knowledge in soft ware commonly used in academic and professional environments.

Course Outcomes

The M.Sc. Physics program has 20 courses offered in Physics during 4 semesters. Five Courses are offered in each of the four semesters. The course outcomes of the different courses are stated here.

SEMESTER - I

PH010101 MATHEMATICAL METHODS IN PHYSICS – I

The objective of this course is to make students have an idea of vector, matrices and tensors, it's physical interpretation and applications.

PH010102 CLASSICAL MECHANICS

After completing the course, the students will (i) understand the fundamental concepts of the Lagrangian and the Hamiltonian methods and will be able to apply them to various problems; (ii) understand the physics of small oscillations and the concepts of canonical transformations and Poisson brackets ; (iii) understand the basic ideas of central forces and rigid body dynamics; (iv) understand the Hamilton-Jacobi method and the concept of action-angle variables. This course aims to give a brief introduction to the Lagrangian formulation of relativistic mechanics.

PH010103 ELECTRODYNAMICS

Electromagnetic force is one of the four forces that exist in nature with a prominent role in the daily activities of human being. So it is necessary to know the physics of this force from the basics of two inter twinned phenomena called electricity and magnetism. Hence the course aims to impart proper understanding of electricity magnetism and electrodynamics; wave nature of electromagnetic field and its properties; electromagnetic field radiating out of accelerated charges and the impact of relativity in electromagnetism along with confined propagation of electromagnetic wave.

PH010104 ELECTRONICS

On completion of this course the student will learn about

- Basic operational amplifier circuits.
- Different Communication Systems.

SEMESTER – II

PH010201 MATHEMATICAL METHODS IN PHYSICS – II

In this course the student will

- Learn the fundamentals and applications of Fourier series, Fourier and Laplace transforms, their inverse transforms etc.
- Know the method of contour integration to evaluate definite integrals of varying complexity.
- Get introduced to Special functions like Gamma function, Beta function, Delta function, Dirac delta function, Bessel functions and their recurrence relations
- Learn different ways of solving partial differential equations.

PH010202 QUANTUM MECHANICS-I

This course aims to develop the basic structure of quantum Mechanics. After completing the course, the student will (i) understand the fundamental concepts of the Dirac formalism (ii) understand how quantum systems evolve in time; (iii) understand the basics of the quantum theory of angular momentum. Also, this course enable the student to solve the hydrogen atom problem which is a prelude to more complicated problems in quantum mechanics.

PH010203 STATISTICAL MECHANICS

The students should be able to

- Explain statistical physics and thermodynamics as logical consequences of the postulates of statistical mechanics.
- Apply the principles of statistical mechanics to selected problems.
- Grasp the basis of ensemble approach in statistical mechanics to a range of situations.
- To learn the fundamental differences between classical and quantum statistics and learn about quantum statistical distribution laws.
- Study important examples of ideal Bose systems and Fermi systems.
- Explain Phase transitions.

PH010204 CONDENSED MATTER PHYSICS

After successful completion of the course, the student is expected to

- have a basic knowledge of crystal systems and spatial symmetries ,- be able to account for how crystalline materials are studied using diffraction, including concepts like reciprocal lattice and Brillouin zones.

- know what phonons are, and be able to perform estimates of their dispersive and thermal properties , be able to calculate thermal and electrical properties in the free-electron model
- know Bloch's theorem and what energy bands are and know the fundamental principles of semiconductors
- know the fundamentals of dielectric and ferroelectric properties of materials
- know basic models of dia, para and ferro magnetism

SEMESTER – III

PH3C09 QUANTUM MECHANICS – II

This course will enable the student to have basic knowledge about advanced techniques like

- Approximation methods for time-independent problems like the WKB approximation.
- The variational equation and its application to ground state of the hydrogen and Helium atom.
- Perturbation theory and Interaction of an atom with the electromagnetic field.
- Relativistic Quantum Mechanics using Dirac equation, Dirac matrices,. The Klein Gordon equation etc.
- Second quantization of the Schrödinger wave field for bosons and fermions.

PH3C10 COMPUTATIONAL PHYSICS

- The students should be able to gets a wide knowledge of numerical methods in computational Physics that can be used to solve many problems which does not have an analytic solution.

PH3EC1 SOLID STATE PHYSICS

This elective course gives the student

- An idea about all types of crystal defects and dislocations.
- Information about Phase diagrams and general diffusion theory in detail.
- Knowledge about laser.

PH3EC2 CRYSTAL GROWTH TECHNIQUES

After successful completion of the course, the student is expected to :

- Acquire knowledge about various crystal growth techniques.
- Have information about materials used to fabricate various semiconductor devices.

SEMESTER - IV

PH4C11 ATOMIC AND MOLECULAR PHYSICS

After successful completion of the course, the student is expected to :

- know about different atom model and will be able to differentiate different atomic systems, different coupling schemes and their interactions with magnetic and electric fields.
- Have gained ability to apply the techniques of microwave and infrared spectroscopy to elucidate the structure of molecules
- Be able to apply the principle of Raman spectroscopy and its applications in the different field of science & Technology.
- To become familiar with different resonance spectroscopic techniques and its applications to find solutions to problems related different spectroscopic systems.

PH4C12 NUCLEAR AND PARTICLE PHYSICS

After successful completion of the course, the student is expected to

- Have a basic knowledge of nuclear size ,shape , bindingenergy.etc and also the characteristics of nuclear force in detail.
- Be able to gain knowledge about various nuclear models and potentials associated.
- Acquire knowledge about nuclear decay processes and their outcomes. Have a wide understanding regarding beta and gamma decay.
- Grasp knowledge about Nuclear reactions, Fission and Fusion and their characteristics.

PH4EC3 NANOSTRUCTURES AND CHARACTERIZATION

This course will enable the student to have basic knowledge about

- Preparation of quantum nanostructures, Micro electro mechanical Systems and Nano electrochemical systems.
- Carbon nanotubes and their applications.
- Thermal, Microscopic and Infrared analysis.
- Mass spectroscopy and Resonance spectroscopy.

PH4OE1: OPTOELECTRONICS

In this course the student will

- Learn about structure and working of LED.
- Understand the propagation of light wave in dielectric wave guide
- Have idea about importance of optical fibers in communication systems.
- Learn the working of photo detectors like photodiodes, phototransistors and photovoltaic devices
- Learn elementary ideas of non linear optics.

Practical Papers

There are four practical papers in the M.Sc. Physics Programmme.

- **PH010105 GENERAL PHYSICS PRACTICALS – Semester 1**
- **PH010205 ELECTRONICS PRACTICALS – Semester 2**
- **PH3P03 COMPUTATIONAL PHYSICS PRACTICALS – Semester 3**
- **PH4PC4 MATERIAL SCIENCE PRACTICALS – Semester 4**

These practical papers make the student familiar with General physics experiments like Cornu's method, Quincke's method, Photoelectric effect etc. Students will be expertise in handling specific electronic equipments like CRO, function generators etc.
Here practicals in computational physics are performed using C++ language which will give a new experience to the students in the field of computer simulations. In their material science practicals students will learn to analyze XRD spectrum, U-V spectrum etc.

6.M.Sc Chemistry

PROGRAM SPECIFIC OUTCOME

1. To understand the basic facts and concepts in chemistry.
2. To develop the ability to apply the principles of chemistry
3. To appreciate the achievements in chemistry.
4. To know the role of chemistry in nature and in society.
5. To develop problem solving skills.
6. To be familiarized with the emerging areas of chemistry and their applications in various spheres of chemical sciences and to apprise the students of its relevance in future studies.
7. To develop skills in proper handling of apparatus and chemicals
8. Students are enabled to prepare accurate stocks solutions.
9. To publish various articles and documents in chemistry related books.
10. Develop hands-on experience.
11. Perform experiments and interpret results obtained.

Course Outcome

Course Outcome

SEMESTER I

CH 050101 ORGANOMETALLICS AND NUCLEAR CHEMISTRY

1. To understand about various organometallic compounds, their structure, synthesis, bonding and reactions.

2. To learn about the catalysis by organometallic compounds.

3. To study about bioinorganic compounds and their roles in biological systems.

4. To provide an insight on nuclear chemistry and their applications.

CH 050102 STRUCTURAL AND MOLECULAR ORGANIC CHEMISTRY

1. To understand about the basic concept in organic chemistry.

2. To learn about various photochemical reactions and physical aspect of organic chemistry.

3. Students are enabled to understand about the stereochemistry of organic compounds and its various conformers.

CH 050103 QUANTUM CHEMISTRY AND GROUP THEORY

1. To study about the various postulates of quantum mechanics and its applications.

2. To understand about the quantum mechanics of hydrogen like atoms.

3. To provide a basic understanding on group theory, symmetry of molecules and its applications. CH 050104 THERMODYNAMICS ,KINETIC THEORY AND STATISTICAL THERMODYNAMICS

1. To understand about the basic concepts of classical thermodynamics.

2. To introduce statistical thermodynamics.

3. To create awareness about the kinetic theory of gases

Semester II

CH 050201COORDINATION CHEMISTRY

To learn about the structural aspects, bonding in coordination complexes.

2. To give an insight on kinetics, spectral and magnetic properties of metal complexes.

3. To learn about the stereochemistry of coordination compounds.

4. To study about the coordination chemistry of lanthanides and actinides.

5. To learn about the kinetics amd mechanism of reaction in metal complexes

CH 500202ORGANIC REACTION MECHANISM

1. To learn about the various organic reaction mechanism.

2. To understand about the chemistry of carbanions, carbonations, carbenes, arynes, nitrenes and carbonyl compounds.

3. To study about the radical reactions and concerted reactions.

4. To quantitatively analyze various organic compounds.

CH 500203CHEMICAL BONDING AND COMPUTATIONAL CHEMISTRY

1. To expose the students to the field of computational chemistry, this is emerged as a powerful tool in chemistry.

2. To calculate certain quantities which are difficult to, by other experimental method. 3. To familiarize with programs like games.

CH 500204MOLECULAR SPECTROSCOY

1. To lay a foundation on spectroscopic techniques and resonance spectroscopy.

2. To determine the quantity of ions using colorimetric methods.

Semester III

CH 3C09 STRUCTURAL INORGANIC CHEMISTRY

1. To understand about the various solid state properties, electrical, magnetic and optical properties.

2. To study about the inorganic chains, rings, cages and metal clusters.

3. To learn about the chemistry of materials.

CH 3C10 ORGANIC SYNTHESIS

1. To understand the various organic reactions.

2. To learn about the modern synthetic method and reagent.

3. To introduce the basic concept to retrosynthetic analysis, protecting group chemistry, biosynthesis and biomimetic synthesis.

4. To learn about the construction of carbocyclic and heterocyclic ring system.

CH3C11 CHEMICAL KINETICS, SURFACE CHEMISTRY AND PHOTOCHEMISTRY 1.

To develop a deeper knowledge in chemical kinetics, mechanism of heterogeneous catalysis, enzyme catalysis and its mechanisms.

2. To provide an insight into the topics surface chemistry, photochemistry.

CH3C12 SPECTROSCOPIC METHODS IN CHEMISTRY

1. A better understanding on various spectroscopic techniques like ultraviolet-visible and chirooptical spectroscopy, infrared spectroscopy, NMR spectroscopy, Mass spectroscopy.

2. To learn about the structural elucidation using spectroscopic techniques.

SEMESTER IV

CH4C13 ADVANCED INORGANIC CHEMISTRY

1. With perception of providing better knowledge on inorganic spectroscopic methods, inorganic photochemistry and application of group theory.

2. A general introduction to nanomaterials.

3. To understand in depth about various analytical methods.

4. To gravimetrically analyze concentration of various ions.

CH4C14 ADVANCED ORGANIC CHEMISTRY

1. To apprehend more about supramolecular chemistry.

2. To grasp a better knowledge on green alternatives to organic chemistry.

3. To learn more about principles of Nano chemistry.

4. To understand more about the sterioselective transformations.

5. With an insight to introduce about the chemistry of natural products, biomolecules, medicinal chemistry and drug designing.

6. To introduce a basic concept on research methodology

. 7. To prepare various organic compounds.

CH4 C15 ADVANCED PHYSICAL CHEMISTRY

1.To lay a foundation on fluorescence spectroscopy

2. To understand in depth about crystallography, gaseous state, electrochemistry and electromotive force.

3. To provide a better understanding on diffraction methods, AAS AES

4.To get a knowledge of various electro analytical methods

7.M.Sc Botany

PROGRAM SPECIFIC OUTCOME

Students will acquire core competency in the subject Botany, and in allied subject areas.

The student will be able to identify major groups of plants and compare the characteristics of lower (e.g. algae and fungi) and higher (angiosperms and gymnosperms) plants.
Students will be able to use the evidence based comparative botany approach to explain the evolution of organism and understand the genetic diversity on the earth.
The students will be able to explain various plant processes and functions, metabolism, concepts of gene, genome and how organism's function is influenced at the cell, tissue and organ level.
Students will be able to understand adaptation, development and behavior of different forms of life.
Students will be able to demonstrate the experimental techniques and methods of their area of specialization in Botany.
The students will be able to demonstrate the knowledge in understanding research and addressing practical problems. Application of various scientific methods to address different questions by formulating the hypothesis, data collection and critically analyze the data to decipher the degree to which their scientific work supports their hypothesis.
An increased understanding of fundamental concepts and their applications of scientific principles is expected at the end of this course. Students will become critical thinker and acquire problem solving capabilities.
Students will acquire digital skills and integrate the fundamental concepts with modern tools.
Students will also strengthen their ethical and moral values and shall be able to deal with psychological weaknesses.
Students will learn team workmanship in order to serve efficiently institutions, industry and society.
Apart from the subject specific skills, generic skills, especially in botany, the program outcome would lead to gain knowledge and skills for further higher studies, competitive examination and employment

COURSE OUTCOMES
Semester I

BY010101: MICROBIOLOGY AND PHYCOLOGY

1. Develop understanding on the concept of microbial nutrition
2. Classify viruses based on their characteristics and structures
3. Examine the general characteristics of bacteria and their cell reproduction/ recombination

4. To prepare and sterilize microbial culture media -Nutrient broth and nutrient agar
5. To inoculate bacteria by stabbing and streaking methods
6. To do bacterial gram staining.
7. To do endospore staining
8. To isolate Rhizobium bacteria from root nodules
9. To isolate microbes from soil using Serial dilution - pour plate/spread plate method.
10. To streak out a bacterial culture on an agar plate and isolation of colonies by Quadrant streaking method
11. To do antibacterial assay by disc diffusion/agar well method.
12. Identify algae from different habitat
13. To understand general characters and classification of algae.
14. Increase the awareness and appreciation of algae and their economic importance

BY010102 MYCOLOGY AND CROP PATHOLOGY

1. Learn about the general characters, classification, reproduction and life cycle of fungi.
2. Develop an understanding of microbes, fungi and lichens and appreciate their adaptive strategies
3. Identify the common plant diseases according to geographical locations and device control measures
4. Identify true fungi and demonstrate the principles and application of plant pathology in the control of plant disease.

5. To isolate fungi from soil and water by culture plate technique.
6. Staining and microscopic study of mycorrhizal colonization in root
7. To Identify various plant diseases with due emphasis on symptoms and causative organisms
8. To isolate pathogens from diseased tissues (leaf, stem, fruit and seed) by blotter / culture methods.
9. To prepare PDA/ Czapek dox's culture medium

BY010103: BRYOLOGY AND PTERIDOLOGY

1. To get knowledge about classification, mode of reproduction and detailed study of some important Bryophytes and Pteridophytes.
2. Identification of Bryophytes and Pteridophytes from different habitat
3. To study fossil Pteridophytes with the help of specimens and permanent slides
4. To impart knowledge to general characters, classification and stelar evolution of pteridophytes.
5. Student will able to understand general characters, distribution, classification and detailed study of some genera.
6. To study and impart knowledge about the morphology and anatomy of Bryophytes and Pteridophytes.

BY010104: GYMNOSPERMS, PALAEOBOTANY AND EVOLUTION

1. Students have a good overview of general characters, morphology, reproductive organs, classification and economic importance of Gymnosperms.
2. Students will be conversant with general characters, morphology and anatomy of *Pinus*, *Cupressus, Podocarpus, Agathis, Araucaria, Taxus and Ginkgo* and Gnetum.

3. Student gets knowledge in the methods of fossil and fossilization.
4. Identification of Gymnosperms from different habitat
5. To study fossil Gymnosperms with the help of specimens and permanent slides

SEMESTER II
BY010201: PLANT ANATOMY, DEVELOPMENTAL BIOLOGY AND HORTICULTURE

1. The students will enable to know the internal structure of stem, leaf and root in monocot and dicot.
2. Students familiarize in secondary growth, anomalous secondary growth in monocot and dicot stems
3. Students are capable to become practical knowledge in T.S. of stem and Leaf (Monocot and Dicot).
4. To excise Embryo from young seeds
5. To identify different types of ovules, embryos, polyembryony, endosperm, pollen grains, anther, and growth stages
6. To prepare Terrarium
7. Students able to explain about plant propagation methods.
8. Students understand garden design, types and cultivation methods of flowers.
9. Students are able to explain about selection methods and hybridization techniques
10.Understand the importance and divisions of horticulture
11. Get to know about commercial horticultural plants
12. Acquire knowledge on breeding methods in commercially important plants.
13. Understand cut flower production and its advantages.
14. Learn about different types of protected floriculture.
15. Acquire knowledge on value added flower products.

BY010202: CELL BIOLOGY, GENETICS AND PLANT BREEDING

1. The course paper focuses on the intricate biological processes dealing with cell biology, cell organelles, cell cycle, cell division, gene expression and their regulation.
2. It brings fundamental concepts as well as recent developments of cell structure, ultrastructure of organelles, cellular activities, physiology and genetic control mechanisms which are basic to understand cellular phenomena.
3. Students will be able to understand the cell structure, organelles, transport of macromicro molecules and related biochemistry in detail.
4. Students able to understand the activities of organisms at sub cellular level.
5. Students will learn the tools and techniques employed in the study of cell.
6. Understand the fundamentals of Mendal's Principle, sex linkage, crossing over and sex influenced characters.
9. Understand the importance and need of crop improvement.
10. Understand the role of mutation in plant breeding and also acquire the knowledge of development of disease resistant variety along with non conventional methods for high yielding variety.
11. Students are able to learn to solve various genetic problems.
12. Students learn about the techniques of emasculation, crossing and bagging.

BY010203: PLANT PHYSIOLOGY AND BIOCHEMISTRY

1. Student will be able to understand plant water relations.
2. Students understand the mechanism of photosynthesis and respiration.
3. Students get acquire knowledge in the mechanism of nitrogen fixation, plant growth regulators and photoperiodism.
4. Students will understand stress types and their mechanism.
5. Students have a detailed knowledge in mechanism of ripening and biological clocks in plants.
6. Students to measure Photosynthesis, estimate proline in plant tissues under various abiotic stresses and estimate phenol in plant tissues affected by biotic stress
7. To determine peroxidase activity in plant tissues affected by biotic/abiotic stresses
8. To estimate free amino acids in senescing leaves to understand the source to sink transformation phenomenon
9. To determine osmotic potential by tissue weight method
10. To separate photosynthetic pigments by TLC/paper chromatography and calculating the Rf value
11. To do amylase activity and GA effect in germinating cereal seeds
12. Estimation of total chlorophyll and study of absorption pattern of chlorophyll solution.
13. To separate and collect leaf pigments by silica gel column chromatography
14. To determine nitrate reductase activity.
15. To extract and estimate leghaemoglobin from root nodules
16. To prepare buffers-Citrate and Phosphate-various strengths
17. To do quantitative estimation of reducing sugar
18. To do separation of amino acids by TLC
19. To quantitatively estimate protein

The students Acquires a general knowledge of the physical, chemical properties and metabolism of carbohydrates and lipids in living system.

20. The students know basic knowledge of the biological importance of the biomolecules such as carbohydrates, lipids, protein, nucleic acid and enzymes.
21. The students will be able to understand the fundamental biochemical principles of enzymes, such as the structure and function of enzymatic process in living system.

BY010204: MOLECULAR BIOLOGY

1. The course paper enlighten mainly on DNA, RNA, Protein, molecular systems and regulation of gene expression in prokaryotic and eukaryotic organisms.
2. Through this course paper students will be able to understand the function of cells at molecular level.
3. The students will be able to apply the molecular knowledge in metabolic engineering of transgenic plant to produce biologically important products.
4. To work out problems based on DNA structure, replication, gene expression and genetic code

SEMESTER III

BY010301: RESEARCH METHODOLOGY, MICROTECHNIQUE, BIOSTATISTICS AND BIOPHYSICAL INSTRUMENTATION

1. Statistical methods are used to analyze the research data further interpretation of findings.
2. Inculcate complete knowledge of research.
3. To prepare a project proposal
4. To prepare an outline of dissertation and research paper
5. To prepare a list of references Preparation of semi-permanent slides.
6. To prepare permanent slides, whole mounts, fixatives (FAA, Carnoys'fluid), dehydration series (Alcohol, Acetone, TBA), paraffin blocks and serial sections
7. To gain knowledge about measures of central tendency and theories of probability.
8. Develop skills in data tabulation, its treatment, analysis, interpretation and graphical representation of data.
9. Analyze the implications of inferential statistics in biology.
10. Develop their competence in hypothesis testing and interpretation.
11. To test the significance of a given data using t-Test, Chi square -test.
13. To analyse a set of data for Correlation / Regression (Scatter diagram).
14. To determine the probability for different types of events
15. The student gets knowledge about bioinstruments like, pH meter, micrometry, centrifuge, colorimeter, TLC or Column chromatography, Spectrophotometer, Electrophoresis, Chromatography principle, and be able to apply these instrument mechanisms to the process of experimentation and hypothesis testing in their imminent research field.

BY010302: BIOTECHNOLOGY, BIOINFORMATICS AND BIONANOTECHNOLOGY

1. For curricular development, students will be able to learn the scope of plant tissue culture technology; knowledge in molecular tools such as enzymes nomenclature, different types of vectors, DNA markers and blotting techniques.
2. The course paper theoretically elaborates detailed aspects of in vitro culture techniques used genetic engineering of transgenic plants.
3. Students will be able to design the strategies for genetic engineering through modern techniques like electroporation, microinjection and liposome mediated transformation studies.
3. In plant tissue culture practical, students will be able to learn the laboratory techniques such as washing, storage of glassware, plastic ware, preparation, sterilization and storage of nutrient media, aspetic manipulation of plant material, and maintenance of cultures under controlled conditions and finally observation of the growth of cultures.
4. To isolate DNA from coconut/onion/cauliflower and separation using agarose gel.
5. To do Blast search with Protein Sequence
6. To do Blast search with Nucleic Acid Sequence
7. To create Phylogenetic tree with the help of CLUSTAL X, W or MUSCLE and tree drawing tools.
8. To create Phylogenetic tree for selected families of Eudicots
9. To do Molecular docking (using either free or commercial Software)
10. To gain knowledge about the biological databases.
11. To understand the basic model and structure of proteins and amino acids.
12. To enable the students to understand the basic tools of sequence analysis.
13. To gain the knowledge on important techniques about plant tissue culture.
14. To study and impart the genetic transformation protocols and its applications

BY010303:ANGIOSPERM TAXONOMY, ECONOMIC BOTANYAND ETHNOBOTANY

1. Understand external structure of plant
2. Classify plant systematics and recognize the importance of herbarium and Virtual herbarium
3. Evaluate the Important herbaria and botanical gardens
4. Interpret the rules of ICN in botanical nomenclature
5. Assess terms and concepts related to Phylogenetic Systematics
6. Generalize the characters of the families according to Bentham & Hooker's system of classification
7. Acquire knowledge on classification of plant families, their characteristics and its economic importance
8. To identify local flora using Flora of Presidency of Madras- J. S. Gamble
9. To study preperation of dendrogram using a suitable software
10. To workout nomenclatural problems regarding priority and author citations.

BY010304: ENVIRONMENTAL SCIENCE

1. Students learned about the interaction between biotic and abiotic components of the environment.
2. Know about the concept of energy flow in the ecosystem.
3. Students will acquire knowledge regarding vegetation and its analysis.
4. Understand the basic concepts of plant ecology and our surrounding ecosystem.
5. Know about different pollutions, consequences in the environment and its mitigation.
6. To identify the natural resources which can be conserve for future and sustainable development
7. Students should be aware of the common environmental problems, their consequences and possible solutions
8. Analysis of water quality for (a) Dissolved CO2 (b) Dissolved oxygen (c) COD (d) Total dissolved minerals (e) Quantitative estimation of dissolved chloride ions and dissolved sulphate (f) Total alkalinity.
9. Quantitative estimation of dissolved silicate, dissolved sulphate, nitrite and total alkalinity.
10. Physico-chemical analysis of soil: (a) Total water soluble mineral ions (b) estimation of soil organic carbon (Walkey and Black method).
11. To do quantitative and qualitative community analysis
12. To do phytoplankton counting

SEMESTER IV

PROGRAMME ELECTIVE – MICROBIOLOGY

BY810401: FOOD, AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY

1. Students learned about the different groups of microorganisms.
2. Students acquired depth of knowledge on microbial interaction and their metabolism.
3. Know about the soil microbial consortium and its role with the environment.
4. Students will be up loaded with importance of microbes and their pivotal role in environmental management.

5. To isolate microorganisms from different sources – air and water.

6. To isolate microbes by serial dilution and pour plate/ spread plate method

7. To isolate microbes by streak plate method

8. To isolate bacteria and fungi from fresh and spoiledfruits.

9. To isolate bacteria and fungi from fresh and spoiledvegetables.
10. To isolate bacteria from fruit juices.
11. To study the effect of food preservatives on the growth of microbes
12. To do IMVIC test, Oxidase test, Catalase test, Litmus milk test, Hydrogen sulphide test, Carbohydrate fermentation test, Multiple tube fermentation test, and Methylene blue reductase test for milk

13. To do Motility of bacteria by hanging drop method

14. To detect siderophore production by bacteria

15. To Estimate mycorrihzal colonization in roots

16. To isolate Azotobacter from soil
17. To do macroscopic, microscopic examination of clinical samples
18. To do double diffusion agar assay
19. To do spore staining and capsule staining in bacteria
20. To do staining of lipid granules in bacteria
21. To do antibiotic sensitivity test for bacteria
22. To determine Blood group

BY810403: INDUSTRIAL MICROBIOLOGY

1. To isolate microbes for production of organic acids and enzymes.

2. To prepare stock cultures for Bacteria and Fungi

3. To prepare fungal spore inoculum and enumeration of spores by Hemocytometer.

4. To prepare bacterial inoculum by measuring OD and enumeration of bacterial cells by serial dilution and pour plate (or spread plate) method.

5. To carryout Solid state and Submerged fermentation for amylase (or any other enzyme) production and quantification of product by suitable assay methods.

6. To optimize process parameters for enzyme production in submerged fermentation.

7. To learn about partial purification of amylase produced by microbial fermentation using acetone precipitation.

8. To do lab level production of Wine and Vinegar

9. To do sugar fermentation using immobilized cells.

PROJECT WORK

1. To enable the student to develop deeper knowledge, understanding, capabilities and attitude in the context of research.
2. To know about selection of research topic.
3. To enable the student towards collection and compilation of literature.
4. Designing the experiment with clear objectivity.
5. Demonstrate the ability to collate and critically assess/interpret data.
6. Develop an ability to effectively communicate knowledge in a scientific manner.
7. Provide recommendations based on research findings.
8. To get specialized in the chosen area of project/research work.

8.M.Sc Zoology
PROGRAM SPECIFIC OUTCOMES

- Students gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms. Understand the ecological interconnectedness of life on earth by tracing energy and nutrient flows through the environment. They are able to relate the physical features of the environment to the structure of populations, communities, and ecosystems.

- Understand the unity of life with the rich diversity of organisms and their ecological and evolutionary significance. Comparative biology explains how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They are able to use specific examples to explicate how descent with modification has shaped animal morphology, physiology, life history, and behaviour.
- Acquire basic skills in the observation and study of nature, biological techniques, experimental skills and scientific investigation.
- Developing deeper understanding of key concepts of biology at biochemical, molecular and cellular level, physiology and reproduction at organism level, and ecological impact on animal behaviour. Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organisms.
- Understanding of environmental conservation processes and its importance, pollution control and biodiversity and protection of endangered species.
- Understands about various concepts of genetics and its importance in human health.
- Development of an understanding of zoological science for its application in medical entomology, apiculture, aquaculture, agriculture and modern medicine.

COURSE OUTCOME

SEMESTER I

ZL010101: Animal Diversity : Phylogenetic and Taxonomic approaches

- To give a thorough understanding in the principles and practice of systematics.
- To help students acquire an in-depth knowledge on the diversity and relationships in animal world
- To develop an holistic appreciation on the phylogeny and adaptations in animals

ZL010102: Evolutionary Biology and Ethology

- To provide an understanding on the process and theories in evolutionary biology
- To help students develop an interest in the debates and discussion taking place in the field of evolutionary biology
- To equip the learners to critically evaluate the debates and take a stand based on science and reason
- To expose students to the basics and advances in ethology, and generate an interest in the subject in order to understand the complexities of both animal and human behaviour.

ZL010103: Biochemistry

- To understand the chemical nature of life and life process
- To provide an idea on structure and functioning of biologically important molecules
- To generate an interest in the subject and help students explore the new developments in
- biochemistry

ZL010104: Biostatistics and Research Methodology

- To impart concepts, generate enthusiasm and make awareness about the tools/gadgets and accessories of biological research
- To equip the learner to carry out original research in biology
- To help the students to improve analytical and critical thinking skills through problem solving.
- To provide hands on training in the use of various tools and techniques suggested in the course.

SEMESTER II

ZL010201: Field Ecology

- To provide an understanding on the basic theories and principles of ecology
- To help study various disciplines in ecology
- To learn current environmental issues based on ecological principles
- To gain critical understanding on human influence on environment

ZL010202: Developmental Biology

- To introduce the concepts and process in developmental biology
- To help students understand and appreciate the genetic mechanisms and the unfolding of the same during development
- To expose the learner to the new developments in embryology and its relevance to Man

ZL010203: Genetics and Bioinformatics

- To give an in-depth understanding on the principles and mechanisms of inheritance
- To help study the fine structure and molecular aspects of genetic material
- To provide an opportunity to learn the importance of inheritance in Man
- To expose the learners to the emerging field of bioinformatics and equip them to take up bioinformatics studies

ZL010204: Microbiology and Biotechnology

- To provide an over view of the microbial world, its structure and function
- To familiarize the learner with the applied aspects of microbiology
- To give students an intensive and in-depth learning in the field of biotechnology

- To understand the modern biotechnology practices and approaches with an emphasis in technology application, medical, industrial, environmental and agricultural areas
- To familiarize the students with public policy, biosafety, and intellectual property rights issues related to biotechnology

SEMESTER III

ZL010301: Animal Physiology

- To study and compare the functioning of organ systems across the animal world
- To give an over view of the comparative functioning of different systems in animals
- To learn more about human physiology

ZL010302: Cell and Molecular Biology

- To help study the structural and functional details of the basic unit of life at the molecular level
- To motivate the learner to refresh and delve into the basics of cell biology
- To introduce the new developments in molecular biology and its implications in human Welfare

ZL010303: Biophysics, Instrumentation And Biological Techniques

- To learn the biophysical properties and functioning of life processes
- To introduce the tools and techniques available for studying biochemical and biophysical nature of life
- To equip the learner to use the tools and techniques for project work/ research in biology

ZL010304: Immunology

- To provide an intensive and in-depth knowledge to the students in immunology
- To help the learner to understand the role of immunology in human health and well-being
- To familiarize the students the new developments in immunology

SEMESTER IV

ZL810401: Environmental Science: Concepts and Approaches

- To provide a broad and deep understanding on environment and influence of man on environment
- To equip the students to use various tools and techniques for the study of environment
- To enable the learner to understand, think and evolve strategies for management and conservation of environment for sustaining life on earth
- To take up further studies and research in the field

ZL810402: Environmental Pollution and Toxicology

- To contribute to the general knowledge of the harmful actions of chemical substances, to study their mechanisms of action, and to estimate their possible risks to humans on the basis of experimental work on biological test systems

ZL810403: Environmental Management and Development

- To balance our economic, environmental and social needs, allowing prosperity for now and future generations
- To improve human life quality. It involves the mobilization of resources and the use of government to administer the use of both natural and economic goods and services. It is based on the principles of ecology

9.M.Com Finance and Taxation

Programme specific outcome

M.Com in Finance is a 2- year management course, minimum eligibility for which is a B.Com degree. Accounting is essentially the communication process through which financial information is passed to users such as shareholders, while finance is essentially the science of managing funds. Master of Commerce is one of the prestigious courses in the country. The program is well received in the industry and for years had been serving the needs of managerial cadre in business and industry. It is a notch higher than a Bachelor degree in Commerce and helps build an in-depth knowledge about various commerce and trade practices.

It is a specialized course which prepares an individual for a career in finance and corporate sector. Subjects typically covered in this course are financial management, financial accounting, business management, costing, human resource management, research, strategic management, tax and statistics. Successful postgraduate of the course interested in higher studies in the discipline may go for pursuing research- based courses such as M. Phil or Ph. D in the subject. They are hired in industries such as government and private sectors, public accounting firms, markets research, budget planning, corporations and consultancies.

- 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.
- Students will learn relevant financial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.
- Learners will involve in various co-curricular activities to demonstrate relevancy of foundational and theoretical knowledge of their academic major and to gain practical exposure.
- Learners can also acquire practical skills to work as tax consultant, audit assistant and other financial supporting services.
- Learners will be able to do higher education and advance research in the field of commerce and finance.

M.Com Course Details

	CM010101	1	SPECIALISED ACCOUNTING	Providing an indepth understanding about theoretical and practical aspects of major Accounting Standards to apply the same in different practical situations. Ascertain the value of goodwill and value of companies on the value of shares and compare the real value of shares and with the market prices. In depth understanding about the determination of purchase consideration of purchase consideration in the event of amalgamation & to prepare post amalgamation financial statements. Develop a clear understanding about different types of NBFCs,their provisioning norms & to understand the concept of NAV of mutual funds through its computation. Acquaint with the theoretical aspects of Emerging areas in accounting.
	CM010102	2	ORGANISATIONAL BEHAVIOUR	Students understand the conceptual frame work of management, organizational behaviour and managerial applicability of the concepts. Impart knowledge about the role of organizational culture and conflict on organizational behavior. Add the knowledge base of the learner regarding change management and deal with stress.
	CM010103	3	MARKETING MANAGEMENT	Students should have a basic understanding about concepts like customer centricity, CRM, value chain & customer delight. Students should have a clear idea about market segmentation process & its applications in marketing strategies. Develop an idea about consumer behavior & its impact. Develop sound ideas regarding services marketing and service quality
M.Com First Sem	CM010104	4	MANAGEMENT OPTIMISATION TECHNIQUES	Learn statistical tools for quantitative analysis in research and business decision making

				Ability to develop Linear Programming Models for business problems and solve the same. Develop decision making skills under uncertainity, risk, replacement of assets.
	CM010105	5	METHODOLOGY FOR SOCIAL SCIENCE RESEARCH	Students understand how to do research in the area of commerce and management. Detailed knowledge about the instrument development, its validation and different forms of scaling.
M.Com Second Sem	CM010201	6	ADVANCED CORPORATE ACCOUNTING	Understand the proceedings of the preparation of consolidated balance sheet also gets an idea about Green accounting, Double accounts, Farm accounts, voyage accounts, and liquidation proceedings of companies.
	CM010202	7	HUMAN RESOURCE MANAGEEMNT	Students to understand the human resource functions in an organization.
	CM010203	8	INTERNATIONAL BUSINESS AND FINANCE	Familiarisation with globalization, internationalization of business and the international business environment Understanding about theories of international trade, trade barriers and trade blocks. Imparting idea about various economic institutions related to international trade
	CM010204	9	QUANTITATIVE TECHNIQUES	Enable the students to use various applications of quantitative techniques. The student should be acquaint to identify appropriate parametric test for testing the hypothesis.
	CM010205	10	STRATEGIC MANAGEMENT	Understand the frame work across strategic analysis, strategy formulation, and strategic implementation Understanding about the modes of implementation & control
M.Com Third Sem	MA03C11	11	MANAGEMENT ACCOUNTING	Able to use accounting methods and techniques used for decision making
	DT03C12	12	DIRECT TAXES- LAW AND PRACTICE	Students familiarize direct tax law of the country and computation and assessment.
	IB03C13	13	INTERNATIONAL BUSINESS	Learned about different aspects of international business
	CG03C14	14	CORPORATE GOVERNANCE	Corporate governance concepts and rules would be learned by the students.

	BE03C15	15	BUSINESS ENVIRONMENT	Students learn about the impact of environment in business
M.Com Fourth Sem	AC04C16	16	ADVANCED COST ACCOUNTING	Students learn about the higher application of cost accounting techniques and methods.
	DT04C17	17	DIRECT TAXES-ASSESSMENT & PROCEDURES	Students familiarize with the assessment and procedures of direct taxes in the country.
	IF04E01	18	INTERNATIONAL FINANCE	Students learn about the macro environment on which financial transactions are carried out also about different ways and means of raising of finance by MNCs'.
	FM04E02	19	FINANCIAL MARKETS & DERIVATIVES	Students would be familiarized with commodity trading markets and different instruments used in such markets.
	SA04E03	20	SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT	Students learn about various techniques of Security analysis
	PD04C18	21	Project/Dissertation	
	VV04C19	22	Viva-Voce	