SPICER ADVENTIST UNIVERSITY, PUNE

Established vide Maharashtra Act No. XIV of 2014

Division-wise List of Program Outcomes, Program Specific Outcomes and Course Outcomes

Aundh Road, Pune 411 067
Maharashtra

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I. DIVISION OF ARTS & SOCIAL SCIENCES

Under Graduate (Duration for UG programs: 3 Years)

1. BA Economics (Honours)

Program Outcomes

Students will:
PO 1: Clearly understand the basic economic theory and its applications;
PO 2: Learn the mathematical and statistical techniques necessary for a proper understanding of the discipline and deriving conclusions;
PO 3: Understand the world economic issues and problems realistically;
PO 4: Gain an understanding of the various economics policies formulated and implemented to solve economic problems and challenges;
PO 5: Get trained to collect primary data and learn sampling techniques;
PO 6: Learn to use scientific empirical methods to arrive at conclusions about the validity of economic theories;
PO 7: Get trained in the art of economic modelling.
PO 8: Be efficient and effective in utilising the limited resources to satisfy unlimited wants.
PO 9: Appreciate the facilities, amenities provided for all
PO 10: Become an individual of integrity.

Program Specific Outcomes

The programme aims to:
PSO 1: Educate students in basic economic theory;

PSO 2: Equip students with the necessary mathematical and statistical techniques and knowledge for a proper understanding of the discipline;
PSO 3: Pragmatically discuss the contemporary world economic issues and problems facing the country and the world;
PSO 4: Enable students to analyze and understand economic policies as a pro-action or responses to economic problems;
PSO 5: Train students to collect primary data and learn sampling techniques;
PSO 6: Train students to arrive to a logical conclusion to an economic problem using statistical and econometric methods;

Course Outcome

CO 1: *ECCC / ECDC 111 Introductory Microeconomics*
The course is the introduction of the student in the study of economics from the perspective of individual decision making as consumers and producers. The basic principles of microeconomics, interactions of supply and demand, and characteristics of perfect and imperfect markets are taught to the students to have a strong foundation if the understanding of the Economics as a course of study.
CO 2: *ECCC/ ECDC 112 Indian Economy-I*
At the end of the course, a student should be able to understand the development paradigm adopted in India since independence and evaluate its impact on economic as well as social indicators of progress and well-being.
CO 3: *ECCC/ECDC 121 Introductory Macroeconomics*
This course aims to develop the broad conceptual frameworks, which will enable students to understand and comment upon macro-economic issues like inflation, money supply, GDP

and their interlinkages. It will also allow them to understand and critically evaluate various macroeconomic policies in larger but realistic perspectives.

CO 4: *ECCC/ ECDC 122 Indian Economy-Ii*

At the end of the course, a student should be able to understand the role of economic policies in shaping and improving economic performance in agriculture, manufacturing and services

CO 5: *ECCC/ ECDC 231 Intermediate Microeconomics - I*

The course trains the students of Economics about the basic elements of consumer theory and production theory and the functioning of perfectly competitive market. This course aims to give students a solid grasp of microeconomic analysis at the intermediate-level using mathematical techniques where appropriate.

CO 6: *ECCC/ ECDC 232 Intermediate Macroeconomics - I*

This course enables students to analyse the macroeconomic performance of various countries using formal analytical tools. It also enlightens the problems and challenges of the economy at the Macro level. It also allows them to evaluate important macroeconomic policies and their implications.

CO 7: *ECCC 233 Statistical Methods for Economics*

The student should understand the concept of random variables and be familiar with some commonly used discrete and continuous distributions of random variables. They will be able to estimate population parameters based on random samples and test hypotheses about these parameters. An important learning outcome of the course will be the capacity to analyse and understand statistical the causes and effects of everyday economic activities and finally to arrive to a logical conclusions to the economics problems.

CO 8: *ECCC/ ECDC 241 Intermediate Microeconomics - Ii*

This course helps the students to understand efficiency of markets and the environment where the standard market mechanism fails to generate the desirable outcomes. The issues of market imperfection and market failures are important building blocks of this course and essential ingredients in understanding the functioning of individual units in the economy.

CO 9: *ECCC/ ECDC 242 Intermediate Macroeconomics - Ii*

This course will enable students to combine their knowledge of the working of the macro economy with long run economic phenomena like economic growth, technological progress, R&D and innovation. It will also enable students to understand business cycles and the role and implications of policies formulated and implemented.

CO 10: *ECCC 243 Introductory Econometrics*

Students will learn to estimate linear models using ordinary least squares and make inferences about population parameters. They will also understand the biases created through mis-specified models, such as those that occur when variables are omitted.

CO 11: *ECCC 351 Environmental Economics*

The understanding and knowledge of the theoretical and empirical concepts in environmental economics, equip students with a thorough analytical grasp of environmental policy theory, ranging from externalities to international environmental agreements, and familiarise students with the main issues in environmental valuation and with the basic features of the environmental policy tools will enable the students the relationship between economic policies and environment and vice-versa. In some models, the student will be required to deal with simple algebra problems that will help them to better understand these concepts, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various environmental policy options, demonstrate their understanding of the usefulness and problems related to environmental valuation, and demonstrate their critical understanding of environmental policies.

CO 12: *ECCC 352 Development Economics-I*
This course introduces students to the basics of development economics, with in- depth discussions of the concepts and theories of development, growth, poverty, inequality, as well as the underlying political institutions. Students will be have the distinct knowledge of the relevant theories to a particular economy.
CO 13: *ECCC 361 International Economics*
It is to educate and equip students with a thorough analytical grasp of trade theory, ranging from Ricardian comparative advantage to modern theories of intra-industry trade, and familiarise students with the main issues in trade policy and with the basic features of the international trading regime which will enable the students to demonstrate their understanding of the economic concepts of trade theory. In some models, the student will be required to deal with simple algebraic problems that will help them to better understand these concepts, use diagrammatic analysis to demonstrate and compare the economic welfare effects of free trade and protection, demonstrate their understanding of the usefulness and problems related to topics in international trade, and demonstrate their critical understanding of trade policies and its implications.
CO 14: *ECCC 362 Development Economics-Ii*
This course teaches the student various aspects of the Indian economy, as well as important themes relating to the environment and sustainable development. It also introduces them to some issues of globalization
CO 15: *ECDE 353 Economics of Health And Education*
The students will learn the role of health and education in human development. They will be able to apply economic theory to understand the demand for health care, market failure in health insurance, economic evaluation of health care programmes and the role of public policy in the healthcare industry. They will also learn to analyse the returns to education, its role in labor market signalling, and the progress of schooling in India. They will also be exposed to the theories of discrimination.
CO 16: *ECDE 354 Applied Econometrics*
Students will learn the theoretical basis for techniques widely used in empirical research and consider their application in a wide range of problems.
CO 17: *ECDE 355 Economic History of India (1857-1947)*
The course develops critical analytical skills and exposes students to understanding the intricacies of India's economic, political and social developments relating the past to the present and its application to the future course of action. These skills would be useful in a variety of careers in academics, research, journalism and the formulation and implementation of government policies.
CO 18: *ECDE 356 Political Economy-I*
It is a pragmatic course of the dynamic economy. It helps the students to critically think, analyze, assimilate various opinions and build a clear inter-disciplinary line of thinking. It trains the enhances the student's skill of writing, presentation and research. It also prepares the students to face the practical world of work, where economics, business, civil society organisations, social institutions and politics often cohabit in a complex interlinked structure.
CO 19: *ECDE 357 Mathematical Methods In Economics–I*
The course fine tunes and upgrades the mathematical skills acquired in school and paves the way for the second semester course Mathematical Methods in Economics II. The analytical tools introduced in this course will be effective in business decision-making. These mathematical tools enhances the employability of the student by making the student to analyzed logically.

CO 20: *ECDE 358 Public Economics*
The course aims to educate the student on the revenue and expenditure of the government at the larger interest of the society and economy. It will enlighten the student on the necessity and the economies of public goods and economies. At the end of the module the students should be able to demonstrate their understanding of the public economics. In some models, the student will be required to deal with simple algebra problems that will help them to better understand these concepts, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various environmental policy options, demonstrate their understanding of the usefulness and problems related to taxation and government expenditure, and demonstrate their critical understanding of public policies.
CO 21: *ECDE 363 Political Economy-Ii*
It informs and exposes the student to the pragmatic realities of the contemporary world
It also exposes the students to interdisciplinary skills and written argumentation, and prepares them for a more holistic research framework. The inter-disciplinary exposure and thinking enables the students to pursue studies in diverse related areas such as development studies, economic sociology, critical geography, gender studies and social work; as also for taking up employment in organisations ranging from international development agencies to development NGOs and corporate CSR, as they are able to comprehend and synthesize materials from diverse sources and perspectives.
CO 22: *ECDE 364 Comparative Economic Development (1850-1950)*
The historical perspective of industrialization and economic transitions will enable the students to assimilate and understand the different opinions and apply it in the current situations. It will assist them immensely in their presentations and perspectives of the different economy.
CO 23: *ECDE 365 Financial Economics*
Students acquire extensive theoretical knowledge in portfolio risk management, capital asset pricing, and the operation of financial derivatives. The course familiarizes students with the terms and concepts related to financial markets and helps them comprehend business news/articles better. The course also helps to enhance a student's understanding of real life investment decisions. The course has a strong employability quotient given the relatively high demand for skilled experts in the financial sector.
CO 24: *ECDC 366 Mathematical Methods In Economics - Ii*
The course provides the mathematical foundations necessary for further study of a variety of disciplines in pursuance of higher education. The tools learned will enable the student to make efficient and effective business decision to optimize and achieve the corporate objectives.
CO 25: *ECDE 368 Dissertation*
The module of the course will enable the student to be acquaint with the procedures and know-how of doing research on relevant economic problem using various tools and techniques and come to a logical conclusions to the problem.
CO 26: *ECGE 113 Principles of Economics*
The course introduces the students to the first course in Economics from the perspective of individual decision making as consumers and producers. The students learn some basic principles of microeconomics, interactions of supply and demand and characteristics of perfect and imperfect markets.
CO 27: *ECGE 123 Indian Economy*
This course will help students understand the key issues related to the Indian economy. It will broaden their horizons and enable them to analyze current economic policy thus improving their chances of getting employed, and be more effective, in positions of responsibility and decision making.

CO 28: *ECGE 234/259 Money and Banking*
This course exposes students to the theory and functioning of the monetary and financial sectors of the economy and thus will have a broad and vivid perspective functioning, roles, and operations of the financial market.
CO 29: *ECGE 244/368 Public Finance*
The module aims to introduce students to the main concepts in public finance, equip students with a thorough analytical grasp of government taxes: direct and indirect taxes, and familiarize students with the main issues in government expenditure. At the end of the module, the students should be able to demonstrate their understanding of the economic concepts of public finances, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various government policy options, and demonstrate their understanding of the usefulness and problems related to government revenues and expenditures.
CO 30: *ECSC 235 Entrepreneurial and Soft Skills*
The students will be equipped with the necessary skills to take advantage of the opportunities in the economy and the soft skills to relate to the various stakeholders of the economy. It will not only provide knowledge but it will educate them to be successful as an entrepreneur or as an employer or employee.
CO 31: *ECON 245 Research Methodology*
The module of the course will enhance the ability of the student to select a research problem and come to a logical conclusion. It will immensely enable the student to skilfully navigate the maze of research problems in the contemporary world economy at the micro or macro level. It will provide a edge in the pursuance of higher education
CO 32: *ECSC 350 Marketing Management*
At the end of the course the students will be efficient and effective marketers of the factors and products as they are able to interlinked the economic principles to the sales and promotion in the market. The student will be able to relate the source of the resource to the point of consumption, which will help in pricing, inventory and distribution.
CO 33: *ECSC 360 Contemporary Economic Issues*
At the end of the course the student will be have a vivid understanding of the contemporary policies, problems and challenges, and opportunities at the national and international arena. It will equip the students to do SWOT analysis of the issues identified.

Click here to view Course Structure and Syllabus

2. BA Education (Honours)

Program Outcomes

PO 1: *Disciplinary Knowledge:* Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate programme of study.
PO 2: *Communication Skills:* Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.
PO 3: *Critical Thinking:* Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.
PO 4: *Problem Solving***:** Capacity to extrapolate from what one has learned and apply one's competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge. Apply one's learning to real life situations.
PO 5: *Analytical Reasoning***:** Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyse and synthesise data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.
PO 6: *Reflective Thinking:* Critical sensibility to lived experiences, with self-awareness and reflexivity of both self and society.
PO 7: *Information/Digital Literacy:* Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.
PO 8: *Self-directed Learning:* Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.
PO 9: *Multi-cultural Competence:* Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multi-cultural society and interact respectfully with diverse groups.
PO 10:*Moral and Ethical Awareness/Reasoning:* Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work.

PROGRAM SPECIFIC LEARNING OUTCOMES

PSO 1: Demonstrate a disciplinary knowledge a set of basic skills in communication and teaching process with clarity
PSO 2: Demonstrate understanding of history of education in India as well as philosophical, psychological and sociological foundations of Education.
PSO 3: Display an ability to read and understand the policy and practices followed in Indian Education,
PSO 4: Cultivate ability to look at and evaluate various evaluation techniques used for assessment in Education.
PSO 5: Demonstrate a critical aptitude and reflexive thinking to systematically analyze the existing scenario of Education in the country using digital resources.
PSO 6: Display knowledge to cultivate a better understanding of values of life at all stages;

PSO 7: Ability to use various e-resources and social media and negotiating with technological challenges.
PSO 8: Articulation of ideas, scientific writing and authentic reporting, effective presentation skills.
PSO 9: Recognize employability options in Education as part of skill development and as career avenues open to graduates in today's global world
PSO 10: Channelize the interests of the students and analytical reasoning in a better way and make more meaningful choices regarding career after completion of graduate programme
PSO 11: To develop a healthy value system based on the cultural, social, moral bases of the Indian society.
PSO 12: To become aware of the psychological, sociological and philosophical principles and practices which influence schooling of the learners.
PSO 13: To act as agents of social change with modern tolerant outlook to the multilingual, multi-ethnic and diversified society.
PSO 14: To promote unity in diversity in the social fabric of Indian society with global outlook but effective locally.
PSO 15: To be sensitive to issues such as environment, population, gender equality, tolerance, respect to others.
PSO 16: To develop critical thinking and inquiry-based learning for the progress of the learner and society
PSO 17: To develop rational thinking, scientific temper and open mindedness
PSO 18: To develop the skills among student teacher to understand and use formal and informal assessment strategies to evaluate and the continuous intellectual, social, emotional and social development of the learners.
PSO 19: To develop their innovative skills which involve technology based teaching.
PSO 20: To be acquainted with preparation of lesson plans, unit plans and yearly plans.
PSO 21: To Enhance their critical and logical thinking skills and learn to deal with variety classroom situations.
PSO 22: To develop the confidence of students to teach and evaluate their students with a variety of methods.

Course Outcomes

CO 1: *EDCC 111: Basic Concepts in Education*

- Describe Basic Education
- Explains different methods of teaching.
- Explains Education is for democracy, international understanding and emotional & national integration.

CO 2: *EDCC 112: History of Education in India*

- Critique different commission; be able to develop one's own opinion on the Education Policy of India
- Assess the impact of Education commissions on the development of Education in the country.
- Work effectively in a collaborative group

CO 3: *EDCC 121: Philosophical Foundation of Education*

- Explains the nature of philosophy and education
- Describes various Indian Schools of Philosophy of Education.
- Analyse the traditional philosophies

CO 4: *EDCC 122: Psychological Foundation of Education*

- Describes various theories of cognitive, psycho-social, moral & social
- development

- Describes the concept and characteristics of learning ← Theories
- Analyse the factors affecting heredity and learning environment of a child.

CO 5: *EDCC231: Sociological Foundation On Education*

- Explain education as a social process, education, and socialization.
- Understand the relationship of education and Culture, Social Change, Social Control and Social Attitudes
- Establish relationship between Culture, Family, Community, State and Education

CO 6: *EDCC 232: Educational Organisation Management and Planning*

- Describe the different aspects and importance of educational management.
- Analyse the concept, principles and structures of total quality management approach in education.
- Develop knowledge and understanding of the meaning, scope, process and types of management.

CO 7: *EDCC 233: Introduction to Instruction*

- Demonstrate effective teaching practices, methods and strategies in the classroom.
- Demonstrate the necessary skills related to the preparation and writing of instructional objectives and lesson plans.
- Recognize factors that are involved in effective teaching.

CO 8: *EDCC 241: Technology in Education*

- Demonstrate knowledge, attitudes, and skills of digital age work and learning
- Learn useful computing skills, including graphics and database concepts.
- Plan, design, and assess effective learning environments and experiences

CO 9: *EDCC 242: Curriculum Development*

- Synthesize the curriculum orientations in terms of foundations of philosophy, psychology and sociology.
- Compare and analyse selected curriculum documents using the selection criteria for adoption and models of curriculum development.
- Describes the procedures of needs assessment and carry out a simple, realistic needs assessment.

CO 10: *EDCC 243: Education in India: Policy and Practice*

- Understand quality control in higher education.
- Be acquainted with the development of education in Independent India.
- Know different contemporary problems and issues in Indian education.

CO 11: *EDCC 351 Inclusive Education*

- Identify conceptual frameworks appropriate for investigating **inclusion** issues.
- Develop sensitivity and positive attitudes towards children with special needs.
- Recognize the qualities and role of school, parents in nurturing inclusive education.

CO 12: *EDCC 352: Basic Concepts of Educational Research*

- Identify the components of the different chapters in an academic research document.
- Demonstrate the use of good mechanics in writing a research paper.
- Evaluate and critique various types of educational research

CO 13: *EDCC 361: Measurement and Evaluation*

- Understand the various approaches to the measurement and evaluation process.
- Discuss the various tools and Techniques of Evaluation.
- Analyse, critique, and document their understanding of current Measurement and Evaluation trends.

CO 14: *EDCC 362 Cognition and Learning*

- Explains the various principles and theories of learning.
- Describe the approaches of cognitive learning.
- Explains the concept of intelligence and theories of intelligence.

CO15: *EDDS 353 Child and Adolescent Psychology*

- Understand the stages of childhood & adolescence development
- Understand the programmes developed by the Govt. of. India for the Youth and adolescents.
- Understand the developmental tasks of adolescents

CO 16: *EDDS 354 Understanding Human Development*

- Explains different factors affect the physical, emotional, and social human development.
- Identify the various positive and negative effects of emotions.
- Understand the Causes of delayed motor and physical development.

CO 17: *EDDS 355 Media Literacy in Education*

- Understand Media literacy Model
- Summarize the different types of Media
- Understand Privacy, Regulation & Rights in Media.

CO 18: *EDDS 356: Comparative Education*

- Explain different methods and factors of Comparative Education
- Compare Primary Education and Secondary Education of India with the UK and USA
- Compare Higher Education and Teacher Education of India with the UK and USA.

CO 19: *EDDS 363: Statistics in Education*

- Compute measures of variability and their utility in education.
- Organize and interpret data in tabular and graphical presentation
- Compute measures of central tendencies, understand about percentiles, percentiles rank normal probability curve and its interpretation and application.

CO 20: *EDDS-364 Educational Thoughts of Great Educators*

- Explain the Educational ideas of Great Thinkers of Indian and Western Educators.
- Explain the Evaluation of Educational thought of various Educators.
- Understand the diverse educational thoughts.

CO 21: *EDCC 365: Gender and Society*

- To have in-depth understanding of a specific gender topic.
- To be able to differentiate between Gender Equality and Equity.
- To be aware of various steps taken by government to achieve Gender equality

CO 22: *EDDS 366: Distance Education*

- Understand the process of Designing and Development of Self-Learning Print Material.
- Understand the mechanism for Learner Support Services in Distance Education.
- Understand the Role of Different forms of Communication Media in Distance Education.

CO 23: *EDGS 113: Introduction to Music*

- Demonstrate familiarity with basic musical concepts and terminology
- Construct major and minor scales
- Sing along with the rhythm

CO 24: *EDGS 114: Value Education*

- Understand the nature, scope, objectives and methods of value education.
- Explain the structure of value education.
- Recognize values for self, society, and environment.

CO 25: *EDGS 123: Children's Literature*

- Understand the various classifications in children's literature
- Distinguish Folk literature, Modern Fantasy & Contemporary fiction.
- Develop interest to read literary contributions of various authors.

CO 26: *EDGS 124: Public Health and Hygiene*

- Demonstrate understanding on the various aspects of Health cycle.
- Describe the importance of environmental health and safety.
- Identify risk factors and warning signs used in the prevention of disease.

CO 27: *EDGS 234: Work Education*

- Explain work education in terms of historical perspective of work education, policy and scope.
- Apply, describe learning format, methods and principles of teaching work education.
- Know principle, purpose, purpose, process, techniques of evaluation in work education.

CO 28: *EDGS 235 Guidance and Counselling*

- Analyse and understand the modern trends in counselling
- Identify different types of guidance and counselling
- Helps to understand various approaches to counselling

CO 29: *EDGS 244: Entrepreneurship in Education*

- Explain the need of entrepreneurship in education.
- Describe innovation in contemporary education.
- Explore strategies to make education current and accessible.

CO 30: *EDSE 236: Teaching Skill – I*

- Construct lesson plans that utilize effective teaching strategies.
- Observe and reflect on classroom practices.
- Synthesize effective teacher practices, strategies, beliefs, and skills through
- collaborative technology driven methods and media.

CO 31: *EDSE 237: Professional Skill*

- Explore sources (online and offline) and identify career opportunities in consideration of their own potential and aspirations.
- Practice interpersonal skills for better relations with seniors, juniors, peers and Stakeholders.
- Project a good personal image and social etiquette so as to have a positive impact on building of one's chosen career.

CO 32: *EDSE 246: Teaching Skill – II*

- Assist the schoolteachers in their day-to-day activities.
- Prepare lesson plans and demonstrate them.
- Understand The Importance of Various Skills in Teaching.

Co 33: *EDSE 247: Leadership and Management Skill*

- Learn and demonstrate a set of practical skills such as time management, self
- management, handling conflicts, team leadership, etc.
- Understand the basics of entrepreneurship and develop business plans

Click here to view Course Structure and Syllabus

3. BA English (Honours)

Program Outcome

The learning outcomes of graduate programmes reflect disciplinary knowledge and understanding, generic skills, including global competencies that all students in the Department of English field of study should acquire and demonstrate. Some of the programme Specific outcomes in general are as follows:

PO 1: ***Disciplinary knowledge:*** Capable of demonstrating comprehensive knowledge and understanding of an undergraduate programme of study.
PO 2: *Communication Skills**:*** Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.
PO 3: *Critical Thinking:* Capability to apply analytic thought to a body of knowledge; analyze and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate.
PO 4: *Problem Solving:* Capacity to extrapolate from what one has learned, and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.
PO 5: *Analytical reasoning:* Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize; draw valid conclusions and support them with evidence and examples
PO 6: *Research-related skills**:*** A sense of inquiry and capability for asking relevant/appropriate questions, problem solving, synthesizing and articulating; ability to recognize cause-and-effect relationships, define problems; predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation.
PO 7: *Cooperation/Teamwork:* Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.
PO 8: *Reflective thinking:* Critical sensibility to live experiences, with self-awareness and reflexivity of both self and society.
PO 9: *Multicultural Competence**:*** Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.
PO 10: *Moral and Ethical awareness/reasoning:* Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behavior such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.
PO 11: *Leadership readiness/qualities:* Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.
PO 12: *Lifelong Learning**:*** Ability to acquire knowledge and skills, including learning how to learn, "that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting

economic, social and cultural objectives, and adapting to changing trades.

Program Specific Outcome

PSO 1: On successful completion of the Programme, the students will be accurate both in oral and written communication as they will be strong in Grammar and its usage.
PSO 2: They can express a thorough command of English and its linguistic structures.
PSO 3: They can apply critical frameworks to analyze the linguistic, cultural and historical background of texts written in English.
PSO 4: They will be familiar with the conventions of diverse textual genres including fiction, non-fiction, poetry, autobiography, biography, Journal, films, plays, editorials etc.
PSO 5: They will comprehend various forms of literature like prose, poetry, drama and fiction
PSO 6: They will comprehend different cultures and cultural sensibilities around the world.
PSO 7: They will have a Perspectives of literary movements that existed in different ages.
PSO 8: They will be able to define literary theory and terms in criticism.
PSO 9: They will develop four language skills **LSRW (Listening, Speaking, Reading and Writing)**.
PSO 10: They will be able to write analytically in different formats like essays, reviews, research papers etc.
PSO 11: They will demonstrate a coherent and systematic knowledge and understanding of English Language and Literature.
PSO 12: They will display the ability to read and understand various literary theories and styles of writing.
PSO 13: They will cultivate the ability to look at and evaluate literary texts as a field of study.
PSO 14: They will demonstrate the ability to think and write critically.
PSO 15: They will apply subject specific skills in language and literature to foster greater sense of moral values.
PSO 16: In addition, the faculty now undertakes teaching papers in contemporary Media Studies, Popular Literature, and English Language teaching in terms of contemporary usage. The course in English Honours today is up to date and relevant.

Course Outcome

Some of the course learning outcomes that students of this course are required to demonstrate run thus:
CO 1: *EN CC 111-American Literature*

- understand the depth and diversity of American literature, keeping in mind the history and culture of the United States of America from the colonial period to the present (17th century to 21st century)
- understand the historical, religious and philosophical contexts of the American spirit in literature; social-cultural-ecological-political contexts may, for example, include the idea of democracy, Millennial Narratives, the Myth of Success, the American Adam, the Myth of the Old South, the Wild West, Melting pot, Multiculturalism, etc.
- appreciate the complexity of the origin and reception of American literature, given its European and non-European historical trajectories, particularly in relation to writers of European (Anglo-Saxon, French, Dutch and Hispanic) descent, as well as writers from black and non-European (African, American Indian, Hispanic-American and Asian) writing traditions.

- critically engage with the complex nature of American society, given its journey from specific religious obligations and their literary transformations (such as Puritanism, Unitarianism, Transcendentalism, etc.) to the growth of anti- or non-Christian sensibilities
- critically appreciate the diversity of American literature in the **l**ight of regional variations in climate, cultural traits, economic priorities explore and understand the nature of the relationships of human beings to other human beings and other life forms in relation to representative literary texts in various genres
- relate the African American experience in America (both ante-bellum and postbellum) to issues of exclusion in societies relevant to their learning experience
- analyze the American mind from global and Indian perspectives and situate the American in the contemporary world.

CO 2: *EN GE 113- Media and Communication Skills*

- develop the professional ability to communicate information clearly and effectively in all kinds of environment and contexts.
- demonstrate practical skills of various types of media writing, reviews, reports, programmes and discussions.
- demonstrate their familiarity with the new media, its techniques, practices of social media and hypermedia.
- critically analyze the ways in which the media reflects, represents and influences the contemporary world.
- identify avenues for a career in print and electronic media.

CO 3: *AECC 111 -English Communication*

- knowledge of theory, fundamental and tools of effective communication.
- art of persuasive speech and writing.
- art of listening, reading, and analyzing.
- critical thinking skills.

CO 4: *EN CC 112-British Poetry & Drama 14th To 17th Centuries*

- understand the tradition of English literature from 14th to 17th centuries.
- develop a clear understanding of Renaissance Humanism that provides the basis for the texts suggested
- engage with the major genres and forms of English literature and develop fundamental skills required for close reading and critical thinking of the texts and concepts
- appreciate and analyse the poems and plays in the larger socio-political and religious contexts of the time.

CO 5: *EN GE 123 - Academic Writing & Composition*

- convey their ideas in English using simple and acceptable English in writing
- understand to recognize and draft different types of writing – e.g. classroom notes,
- summaries, reports, exploratory and descriptive paragraphs, substantiating etc
- describe a diagram or elaborate information contained in a graph, chart, table etc
- write a review of a book or a movie
- write a report on an academic or cultural event that takes place in a college or
- university for a journal or a newspaper

CO 6: *EN CC 121- Popular Literature*

- trace the early history of print culture in England and the emergence of genre fiction and best sellers.
- engage with debates on high and low culture, canonical and non-canonical literature.

- articulate the characteristics of various genres of non-literary fiction.
- investigate the role of popular fiction in the literary poly-system of various linguistic cultures.
- demonstrate how popular literature belongs to its time.
- Use various methods of literary analysis to interpret popular literature.

CO 7: *EN CC 231 - Indian Writing In English*

- appreciate the historical trajectory of various genres of IWE from colonial times till the present.
- critically engage with Indian literary texts written in English in terms of colonialism/ post-colonialism, regionalism, and nationalism
- critically appreciate the creative use of the English language in IWE
- approach IWE from multiple positions based on historical and social locations

CO 8: *EN GE 234- Introduction to British Romantic Literature*

- understand Romanticism as a concept in relation to ancillary concepts like Classicism.
- understand the Romantic period in English literature in terms of its social, philosophical, intellectual, literary backgrounds including German and French influences
- analyze and understand the main characteristics of Romanticism
- appreciate the canonical and representative poems and prose of the writers of the Romantic period.
- develop skills of critical analysis and interpretation of selected poems in order to understand the theme, language, style, and elements of prosody.
- appreciate and analyze the sensibility of the British Romantic period: common man, equality, freedom, sense of community and fraternity.
- relate Romantic literary texts to other forms of expression such as painting, for instance

CO 9: *EN SC 235- Soft Skills*

- Communicate with others effectively
- Exhibit qualities of leadership
- Take responsibility to undertake a work and complete it.
- Aware of their own weaknesses
- Work in groups either as members or leaders
- Think critically or laterally and solve problems
- Be flexible to the needs of others
- Negotiate with others to solve problems (conflict resolution)
- Cope with pressure and yet produce results

CO 10: *EN CC 242- British Literature 19th Century*

- identify and analyze the socio-economic-political contexts that inform the literature of the period.
- comment on the historical and political awareness of literary texts as reflected in the transition from nature to culture across various genres
- understand the conflict between self and society in different literary genres of the period.
- link the rise of the novel to the expansion of Colonialism and Capitalism.
- understand the transition from Romantic to Victorian in literature and culture.
- link the Victorian temper to political contexts in English colonies.
- link the changes in the English countryside to changes brought about in similar settings in India

CO 11: *EN GE 244- Creative Writing*

- recognize creativity in writing and discern the difference between academic/non creative and creative writing.
- develop a thorough knowledge of different aspects of language such as figures of speech, language codes and language registers so that they can both, identify as well as use these; in other words, they must learn that creative writing is as much a craft as an art.
- develop a comprehensive understanding of some specific genres such as fiction, poetry, drama and newspaper writing.
- distinguish between these as well as look at the sub divisions within each genre(such as in poetry, different forms like sonnets, ballads, haiku, ghazal, etc)
- process their writing for publication and so must have the ability to edit and proofread writing such that it is ready to get into print.

CO 12: *EN SC 245- English Language Teaching*

- identify and classify strategies used by a teacher to teach language
- demonstrate clear understanding of the syllabus, its structure and development
- understand the structure of a textbook and its use.
- articulate the reasons for different types of tests the teacher administers.
- demonstrate the ways in which technology can be used for learning language.

CO 12: *EN CC 243 - Women's Writing*

- recognise the importance of gender specificity in literature.
- understand and appreciate the representation of female experience in literature.
- explain the difference between the feminine and the feminist as opposed to the female.
- examine and appreciate the role played by socio-cultural-economic contexts in defining women.
- link the status of woman to social discrimination and social change.
- draw a location specific trajectory of female bonding or empowerment.
- understand the complexity of social and biological constructions of manhood and womanhood.
- examine the relationship of women to work and production

CO 13: *EN CC 352- British Literature Early 20th Century*

- trace the history of modernism in the socio-cultural and intellectual contexts of late nineteenth century and early twentieth century Europe
- link and distinguish between modernity and modernism
- explain the links between developments in science and experiments in literature
- explain the history of early twentieth-century modernism in the light of stream of consciousness, Jungian and Freudian ideas, Psychoanalysis, Imagism, Cubism, Vorticism
- identify and analyze the use and modernist technique in different genres in early twentieth century British literature
- trace the history of the self and subjectivity in literature in the light of colonial consciousness
- explain and analyze the idea of form in modernist literary texts from across major genres.

CO 14: *EN DE 351 Literary Criticism*

- understand the historical and philosophical contexts that led to the development of literary criticism and its practice in different traditions and periods

- learners will be able to understand fundamental literary and critical concepts and underlying distinctions amongst them (e.g., difference between literary criticism and literary theory)
- learners will be able to grasp a wide range of literary philosophers and critics whose works had informed and shaped the discourse of literary theory
- learners will have knowledge about major, critical movements and critics in various critical traditions – Indian(schools of Rasa, Alamkar, Riti, Dhwani, Vakroti, Auchitya) and Westren (Greek, Roman, English, German, Russian and French)
- learners will be able to identify theoretical and critical concepts with critics/ texts/ movements with which they are associated and understand them in their contexts
- learners will be able to apply various theoretical frameworks and concepts to literary and cultural texts
- learners will be able to evaluate and analyze strengths and limitations of critical/theoretical frameworks and arguments
- learners will be able to strengthen and deepen their interpretative skills

CO 15: *EN DE 352 Research Methodology*

- Develop a simple questionnaire to elicit specific information.
- Collect data based on a survey and arrive at inferences using a small sample.
- Discuss and draft a plan for carrying out a piece of work systematically
- Refer to authentic sources of information and document the same properly.
- Provide proper explanation for technical terms in simple language.

CO 16: *EN DE 353- World Literature*

- explain the concept of World Literature and its evolution in relation to other related concepts.
- appreciate the connectedness and diversity of human experiences and literary responses to them in different parts of the world.
- analyze and appreciate literary texts from different parts of the world and receive them in the light of one's own literary traditions.
- analyze and interpret literary texts in their contexts and locate them.

CO 17: *EN DE 362- English Language Today*

- identify and classify strategies used by a teacher to teach language.
- demonstrate a clear understanding of the syllabus, its structure and development.
- understand the structure of a textbook and its use.
- articulate the reasons for different types of tests the teacher administers.
- demonstrate the ways in which technology can be used for learning language.

CO 18: *EN DE 363- Literature of Indian Diaspora*

- understand the concept of 'diaspora' in its historical and cultural contexts.
- identify different aspects of Indian diasporic consciousness and the literary features of diasporic texts.
- develop a clear understanding of the formation of Indian diasporic movements within India and outside .
- develop a critical understanding of the writings of the Indian diaspora within the discourse of postcoloniality, postmodernity, hybridity, globalization and transnationalism.
- develop the analytical ability to read diasporic texts and analyze key diasporic issues such as displacement, nostalgia, alienation, belonging, identity, gender, racism and assimilation
- understand the main currents of Indian diasporic narratives.

- examine how texts function as diasporic markers, broadening the understanding of Indian diasporic lives, cultural practices, experiences, religion and the new medium.

CO 19: *EN DE 361- Literary Theory*

- have a historical overview of major literary theorists, particularly of the 20th century
- show an understanding of historical and philosophical contexts that led to the development of literary theory and its practices
- develop awareness of various literary theories and the way they enrich and change our thinking about language, literature and society
- historically situate literary theorists whose works had informed and shaped various literary theoretical discourses
- identify theoretical concepts with theorists and movements with which they are associated and in the process understand their contexts
- apply various theoretical frameworks and concepts to literary and cultural texts
- evaluate and analyze strengths and limitations of theoretical frameworks and arguments
- sharpen interpretative skills in the light of various theoretical frameworks

CO 20: *EN CC- 362- Modern European Drama*

- understand the role of theatre and drama in the introduction and shaping of modernity
- understand and engage with concepts like realism, naturalism, symbolism, expressionism, the Avant Garde, the epic theatre, the theatre of the absurd, etc.
- understand how meaning is created in theatre and be able to write about innovations introduced into theatrical practice in the late nineteenth and the twentieth century.

CO 21: *EN CC 361 - Post-Colonial Literature*

- understand the social-historical-political-economic contexts of colonialism and postcolonialism in India and other countries affected by colonial rule.
- understand the scope of postcolonial literatures in India and elsewhere, primarily as a response to the long shadow of colonialism, not just of colonial occupation
- see through a corpus of representative postcolonial texts from different colonial locations: the effects of colonial rule on the language, culture, economy and habitat of specific groups of people affected by it.
- appreciate and analyze the growing spectres of inequality arising out of colonial occupation and the role played by postcolonial literatures to resist it in India and similar locations
- critically engage with issues of racism and imperialism during and after colonial occupation
- appreciate the changing role and status of English in postcolonial literatures.
- link colonialism to modernity.

Click here to view Course Structure and Syllabus

4. BA Geography (Honours)

Program Outcomes

Student seeking admission for B.A. program are expected to imbue with following quality, which helps them in their future to achieve the expected goals.

PO 1: To acquire knowledge regarding various fields in Geography and its application in real life.
PO 2: Realization of human values.
PO 3: Understand Environmental Ethics and Sustainability
PO 4: Sense of social service.
PO 5: Responsible and dutiful citizen.
PO 6: Critical temper
PO 7: Creative ability.
PO 8: To train students in various skills and techniques used in Geography.
PO 9: To make the students aware about environment.
PO 10: To prepare students for university examination, competitive examination, and for allied branches of Geography.

Program Specific Outcomes

Student seeking admission for B.A. program are expected to imbue with following quality, which help them in their future life to achieve the expected goals.

PSO 1: The students will acquire knowledge in the field of social sciences, literature and humanities, which will make them sensitive and sensible enough.
PSO 2: The B.A. graduates will be acquaint with the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking.
PSO 3: Students will learn about various economic activities of man and their spatial temporal distribution.
PSO 4: Graduates will be able to explain principles and tools of geographic information science including cartography, remote sensing and geographic information systems.
PSO 5: Students will understand environmental ethics and sustainability
PSO 6: Students will acquire knowledge regarding various fields in Geography and its application in real life.
PSO 7: The data and knowledge of these courses in present program will help to students to become sustain and compete in competitive world.
PSO 8: Program provides the base to be the responsible citizen.
PSO 9: This program help the learners to extract information, formulate and solve problems in a systematic and logical manner.
PSO 10: The program also empowers the graduates to appear for various competitive examinations or choose the post graduate program of their choice.

Course Outcomes

CO 1: *GECC 111: Geomorphology*
Students would be acquainting with the utility and application of Geomorphology in different regions and environment.
CO 2: *GECC 112: Economic Geography*
Students will understand economic activities and theories associated with it. Students would be integrating the various factors of economic development and dynamic aspects of Economic Geography.
CO 3: *GEDE 113: Physical Geography*
Student will understand part of the complex physical and biological environment in which human beings live.
CO 4: GECC 121: *India: A Geographical Review*
The students will get familiarized with the geographic dimensions of India in terms of its regional vitality and formation of regions.
CO 5: *GECC 122: Geography of Travel & Tourism*
Help the students to develop knowledge of tourism products, assets and resources. Students will also receive an overview on the culture, people, heritage and other resources.
CO 6: *GEDE 123: Geography of India*
To introduce the students to the physiographic divisions of India, drainage system, climate and mineral resources.
CO 7: *GEOG 231: Fundamentals of Climatology*
Students will understand the elements of weather and climate, different atmospheric phenomena and climate change. They will learn to associate climate with other human issues.
CO 8: *GEOG 232: Practical in Climatology*
The students will get familiarized with climatic maps, charts and interpretation of weather map. They will also learn use of various meteorological instruments.
CO 9: *GEOG 233: Agricultural Geography: A Special Reference to Maharashtra*
This course attempts to introduce the students to the nature and origin of agriculture and its regions. The students will be able to analyze the agriculture development and productivity and its impacts on various sectors
CO 10: *GEOG 234: Demographic Studies*
To expose the students to the spatial variations in the distribution, composition, migration and growth of population
CO 11: *GEOG 235: Human Rights*
This course provide the capacity to identify issues and problems related to human rights. It also develops investigative and analytical skills.
CO 12: *GEOG 241: Surveying and Map Projections*
Students will learn the usages of surveying instruments like Dumpy level, Theodolite and map projections.
CO 13: *GEOG 242: Health Geography*
This course acquaint the students with the principles of health and its importance in the life. It also gives idea about spatial distribution of human diseases at the world, regional and local level.
CO 14: *GEOG 243: Urban Geography*
The students will be able to understand the concepts and process of urbanization. They will critically analyze contemporary urban issues from a geographical perspective
CO 15: *GEOG 244: Geographical Thought*
Students will understand the pre-history of geographical ideas in different dimension as well as impact of explorations and discoveries. Students will be able to think in spatial terms to

explain what has occurred in the past as well as using geographic principles to understand the present and plan for the future.

CO 16: *GEOG 245: Biogeography*

To recognize the significance of biogeochemical cycles and biodiversity. Also understand the varied ecosystems and classifications.

CO 17: *GEOG 351: Quantitative Methods in Geography*

To introduce the students to the collection, presentation of data, and to train them to use of various statistical methods.

CO 18: *GEOG 352: Resources: A Geographical Perspective*

Students will be able to synthesize geographic knowledge and apply innovative research strategies to solve problems in resource conservation, environmental change, and sustainable development within the community, region, and world.

CO 19: *GEOG 353: Rural Geography*

Students will understand rural concept, activities, culture, problems, rural development policies and programs in India

CO 20: *GEOG 354: Settlement Geography*

To Build an idea about urban and rural settlements, and its relationship with environment and also different theories related to settlement geography.

CO 21: *GEOG 355: Disaster Management*

To introduce the students to the basic concept of disaster, types of hazards, disaster, and methods of community involvement. To familiarize students with the various disasters and the ways to mitigate them.

CO 22: *GEOG 361: Geography of SAARC Countries*

This course help to understand economic growth, social progress and cultural development in the region. It also gives idea about different climatic classifications and relief features.

CO 23: *GEOG 362: Project in Geography*

It help students the opportunity to reinforce classroom-based learning to enhance student's knowledge, skills and subject understanding.

CO 24: *GEOG 363: Water Resource Management*

Students will aware about hydrological, socioeconomic and environmental aspects of water management. In addition, they will understand the theory and practice of water management at international, national and local scales

CO 25: *GEOG 364: Remote Sensing and Geographical Information System*

To develop technical skills and competence in data and information acquisitions, extraction, management, analysis for mapping and visualization.

CO 26: *GEOG 365: Geology of India*

The study of this paper strengthens students' knowledge with respect to understanding the essentials of the dynamics of earth. The students will understand the origin and age of our Solar system and planets including earth.

Click here to view Course Structure and Syllabus

5. BA History (Honours)

Program Outcomes

PO 1: To develop among the history students a "sense of History" to understand the present in the context of past events.
PO 2: To make students aware of important historical trends of the past that has its effects in Modern life.
PO 3: To promote the concept of critical analysis of today's events as a consequence of past event's effects.
PO 4: To clearly understand the value of National Spirit and Internationalism in the comity of the Nations of the world.
PO 5: To appreciate India's Heritage and its value to Internationalism.
PO 6: To be aware of the contribution of every civilization in the past and its legacy to Global Humanity.
PO 7: To understand the dynamics of Historical trends in terms of the Christian philosophy of History.
PO 8: To prepare students for a career in historical research in areas that are obscure and not understood.
PO 9: Promote the establishment of Historical heritage sites to safeguard historical monuments, documents and Archeological artifacts by preserving, them with the help of local, national and international organizations.
PO 10: To prepare students with a grasp of Historical knowledge to engage in Social endeavors to a life to service to the community as responsible citizens in the community to preserve the values of Human dignity, Rights and Individual Integrity.
PO 11: To encourage all students to get involved in the different activities of the department to enable them to become Leaders, creative thinkers.
PO 12: To encourage all students for diligence in Reading and submission of written assignments as required after each class.
PO 13: To require all Teaching Faculty to engage in personal research and use the classroom for inspiring students for discussion and active in interactions among themselves.

Program Specific Outcomes
PSO 1: Several students who successfully completed the M.A. History, are now engaged as teachers in University and High school teaching careers.
PSO 2: A B. A. graduate has been able to work in a Museum as Curator in Mumbai.
PSO 3: Another B A. Student joined a Social organization, which conducts seminars on relevant topics and has been gainfully engaged in this program of promoting participation of the public in social discourse and debate on relevant matters.
PSO 4: Students of the History classes actively participated in an Inter-disciplinary Departmental Seminar of the Social Science Division.
PSO 5: Students of different History classes from M.A and B.A. program participated with display models in in Inter-departmental Exhibition with explanations of their displayed. Models.
PSO 6: Students engaged in field trips to Historical sites such as Forts, Museums, and Monuments of Historical importance for practical understanding.
PSO 7: Students Attended Programmes organized by the University under the UGC guidelines to understand important events such as Constitution Day and the value of Dr. Ambedkar's contribution to the Writing of the Constitution for the Republic of India.
PSO 8: Participated in the Independence Day celebration by dramatizing the role of great

Indian Heroes and Heroines.
PSO 9: Students participated in the UGC Promoted Day for Minority Rights on Dec. 18, 2019 by street plays, drama presentation in the Student Assembly.
PSO 10: History Department club with student officers and a Faculty advisor organized bi-monthly programs conducted by students with debated, talks and different departmental activity.
PSO 11: Participated in the UGC promoted Shivaji Jayanti celebration of the Great Leader's Birthday during the University Assembly period.

Course Outcomes

CO 1: *HIST111 Introduction to History*

- Apply the theory of Historicism as a professional skill in various fields of intellect.
- Critically analyze the process of development of historiography since ancient times to modern times.
- Acquire basic skills of historical research.

CO 2: *HIST112 History of India up to 1206 AD*

- Perceive various sources to study Ancient India.
- Know about the development and the achievements of man in the Stone Age.
- Understand the glory of Indian history in the age of Harappa civilization
- Comprehend the history of Vedic period.
- Understand the philosophy of Jainism and Buddhism.
- Perceive influence of political support on religion.

CO 3: *HIST113 History of Christianity in India (Discipline Electives)*

- To enable the students to know the relevance of Christianity in India, and work for the Ecumenical Unity, in order to strive to have a better world tomorrow.
- This paper also aims at highlighting the contribution of various people, organizations groups and institutions in making Christianity relevant to the Indian context to the stakeholders. It also facilitates giving information about various denominations prevailing in Christianity in India.
- It tries to explain the various forms of reforms that took place in the Church, which had a great impact in the growth of Christianity in Indian.

CO 4: *HIST114 History of United States of America from 1600 to 1938 (Generic Electives)*

- Students from Economics, English, Geography, Psychology and Sociology except History will enhance their knowledge of the history of America. It will help them understand, synthesize, and analyze the major themes and debates in the historiography of America.

CO 5: *Hist121 History of India From 1206 to 1550 AD*

- The course will provide an understanding of the social, economic, religious bases of medieval India.
- Students will understand medieval Indian art & architecture

CO 6: *Hist 122 History of Civilizations*

- Upon completion of History of Early Civilizations, students will be able to develop and persuasively argue a historical thesis in a written assignment that identifies and explains major social, economic, political and/or cultural historical themes or patterns in the history of Early Civilizations and apply appropriate historical methods to analyze and use primary and/or secondary sources as evidence to support the thesis.

CO 7: *Hist 123 History of Marathas Royal Period 1630-1707 AD (Discipline Electives)*

- Understand the inspiration behind the establishment of swarajya.
- Explain the reasons behind Chhatrapati Shivaji's early conflicts with the regional lords

and the outsiders.

- Know about the administrative need and the importance of grand coronation of Chhatrapati Shivaji
- Assess the Chhatrapati Shivaji invasion on Karnataka.
- Know about the sacrifices of Maratha leaders and people to protect freedom and sovereignty of the region.
- Understand the formation of welfare state during the Maratha rule

CO 8: *Hist 124 History of Tourism (Generic Electives)*

- After successful completion of the course students will
- Build a career with social consciousness and human values.
- Apply multidisciplinary approach for holistic development

CO 9: *HIST 231 India Under the Mughal Rules*

- This course will acquaint students with various concepts and intellectual heritage in medieval India. With special reference to the ideological aspects such as social, economic, and institutional bases of medieval India.

CO 10: *HIST 232 Modern Revolutions and Its Implications*

This course will acquaint students with various Revolution such as

- the English Revolution of the 17th century.
- the American and French Revolutions, which many describe as the crucible of modernity.
- the Mexican Revolution, which changed the history of Latin America.
- the Russian and the Chinese Revolutions, which sought to create Marxist states.

CO 11: *HIST 233 Modern World History From 1760 to 1910 AD*

- This course will help the student to know Modern World, to acquaint Students about the main developments in the Contemporary World (To understand to important development in 20th century World.),
- Impart knowledge about world concepts, to enable students to understand the economic transition in the World during the 20th Century, to make them aware of the principles, forces, processes, and problems of the recent times.

CO 12: *HIST 234 Archaeology & Heritage Tourism (Discipline Electives)*

- Archives are the soul of the discipline of history. This course is designed to make students aware of the concept and the importance of Archaeology & Heritage Tourism. It also aims to introduce various new technological developments in the field.

CO 13: *HIST 23) History of Indian Culture (Generic Electives)*

- To familiarize learners with various aspects of the culture and heritage of India.
- To acquaint learners with the contributions of our ancestors in the areas of religion, philosophy, science, arts, education, languages and literature.
- To enable learners to appreciate the underlying unity amidst diversity in all aspects of India's culture.

CO 14: *HIST 241Modern India From 1857-1964*

- To acquaint the student with the in-depth knowledge of the dynamics of various changes that occurred in India in the Modern period and to apply analytical approach to look into the events occurred during this period.

CO 15: *HIST 242 History of Marathas Peshwa Period From (1707-1818)*

- The main objective of this course is to acquaint the students with the knowledge of Maratha society in the realm of social and economic institutions and their interaction which ultimately resulted into administration of Peshwa period.
- The course intends to study the role played by the Marathas in the context of India, the changing nature of Maratha State during Peshwa Rule.

CO 16: *HIST 243 India Nation In the Making*

- Understand the nature of different phases of British Colonialism in India
- Recognize the impact of socio-religious reform movements
- Analyze the emergence of political consciousness and rise of national movement

CO 17: *HIST 244 Eastern Asia In Modern Times (Discipline Electives)*

- The students will be able to use the knowledge of East Asian history to analyze current trends and processes
- Students will be able to participate in an academic discourse on the nature of historical inquiry; analyze facts, narratives, and lessons and historical and philosophical dimensions of "modernity"
- Students will be able to analyze historical events and their impact on economic, political, and socio-cultural development of Qing China
- Students will be able to evaluate Joseon Korea's relations with China
- Students will be able to evaluate the Tokugawa events, from national unification to a new political order.

CO 18: *HIST 245 A Survey of Indian History (Generic Electives)*

- After completing this course students are expected to have a fair knowledge about the prehistory, proto history and the sources of Ancient Indian History.

CO 19: *HIST 351 Issues In Contemporary India*

- comprehend key themes and debates related to societies in contemporary India
- apply critical analysis of arguments and findings of research in relation to how theory and methods are applied
- have developed an understanding of interdisciplinary, social science approaches to contemporary issues pertaining to contemporary India

CO 20: *HIST 352 History of Contemporary world from 1945 to 1990*

- The main objective of this course is to acquaint the student with a broad overview of the fundamental changes that have taken place in the world in modern times.

CO 21: *HIST 353 Research Methodology in History*

- To adequate students with the conceptual base, bring better understanding of history and its forces.
- This will make students confident to interrogate existing paradigms and challenge the outdated, help in developing critique, help research in terms of formulating hypotheses and develop broad frames of interaction with other social sciences and attain a certain level of interdisciplinary approach.

CO 22: *HIST 354 History of soviet Russia From 1919-1991 (Discipline Electives)*

- demonstrate an in-depth knowledge of the history of the Soviet Union and Russian Revolution.
- critically evaluate key interpretations of the social, cultural, and political history of Russia in the twentieth century.
- conduct research, analyze and integrate primary and secondary sources and present their research in written form at an advanced level; and
- demonstrate the significance of Soviet history for the contemporary world.

CO 23: *HIST 355 India Under British Crown (Generic Electives)*

- To develop an understanding of social religious reform movements salving British India.
- Nationalistic approaches of National Moments.
- Causes responsible for partition of India.

CO 24: *HIST 361 Projects in History*

- Apply the theory of Historicism as a professional skill in various fields of intellect.
- Critically analyze the process of development of historiography since ancient times to modern times.
- Acquire basic skills of historical research.
- How to use the tool of theoretical application in their research.

CO 25: *HIST 362 Modern Europe From 1789-1945*

- The main objective of this course is to acquaint the student with a broad overview of the fundamental changes that have taken place in Europe in modern times.

CO 26: *HIST 363 Philosophy of History*

- To adequate students with the conceptual base, bring better understanding of history and its forces.
- This will make students confident to interrogate existing paradigms and challenge the outdated, help in developing critique, help research in terms of formulating hypotheses and develop broad frames of interaction with other social sciences.

CO 27: *HIST 364 History of Indian Journalism (Discipline Electives)*

- Identify and define various kinds of newspapers and understand how newspapers are shaped
- Compare and contrast various stages of progress from Print Media to Electronic media analyze the mass media
- Increase the awareness and appreciation of Transition from Print Media to Electronic media
- Analyze the Growth of Press and Contribution of Eminent Personalities to Indian Journalism
- Evaluate the Contribution of Important Newspapers in India.
- Critically examine the nature and evolution of Social Media

CO 28: *HIST 365 Independent India From 1947-1972 (Generic Electives)*

Students will be able to comprehend wide-ranging topics of contemporary interest in the context of India from 1947 to 1972.

Click here to view Course Structure and Syllabus

6. BA Psychology (Honours)

Program Outcomes

PO 1: Develop an interdisciplinary understanding of the human mind and behaviour, and use it to advance psychological theory, research and applications.
PO 2: Application of knowledge with critical thinking skills to evaluate and interpret evidence and to apply psychological concepts, theories, and research findings.
PO 3: Able to demonstrate effective communication skills in a psychological context.
PO 4: Recognize the value of psychology in professional and personal domains.
PO 5: Able to apply ethical standards to evaluate psychological science and practice.

Program Specific Outcomes

PSO 1: Recognize, compare, and apply the core domains of psychology.
PSO 2: Apply psychological knowledge to prevent and solve human problems existing at individual, group and societal levels; develop related skills that promote human welfare and optimal human functioning.
PSO 3: Knowing the career opportunities that exist within the discipline of psychology through self-reflection and developing insights into appropriate career choices.
PSO 4: Developing knowledge about the application of tests in a variety of settings.
PSO 5: Provide input for psychological literature in research methodology and statistical analyses with sensitivity to ethical principles.
PSO 6: Recognize and respect the complexity of socio-cultural diversity and individual differences.
PSO 7: Understanding a variety of health enhancing, health compromising behaviours & developing an understanding of human strengths and virtues.
PSO 8: Understanding self and personality through Eastern & Western approaches.
PSO 9: Understanding biological mechanisms & appreciating the biological bases of human behavior.
PSO 10: Acquiring an ability to decipher key developmental challenges and issues faced across lifespan.
PSO 11: Developing a basic understanding of counselling as a profession.
PSO 12: Knowing how to apply knowledge of I/O Psychology to the real work settings & developing the ability to assist HR departments.
PSO 13: Acquiring knowledge and skills for distinguishing normal and abnormal behavior and learning the criteria of determining abnormality.
PSO 14: Understanding the meaning and processes of education at individual and social plains in the Indian context.
PSO 15: Familiarizing with the evolving field of sports and exercise psychology as a profession.
PSO 16: Acquiring basic knowledge of core concepts in human cognition.
PSO 17: Understanding pro-environment behavior and human-environment transactions.

Course Outcome

CO 1: *PSCC 232- Personality Psychology*

- Appreciating conceptualizations of personality in the Western as well as Eastern traditions.

- Understanding self and personality through Eastern perspectives such as Mimamsa, Vedanta, Samkhya, Yoga, Buddhist, and Sufi traditions.
- Developing a critical understanding of personality through various Western approaches including type and trait, psychoanalytic, socio-cognitive, and humanistic.
- Understanding biological and environmental influences on personality development.
- Fostering an applied perspective by engaging students in a discussion about the everyday applications of various personality theories.

CO 2: *PSCC 233- Biopsychology*

- Appreciating the biological bases of human behaviour.
- Developing an awareness of scientific techniques for biological Psychology and related ethical issues.
- Having basic knowledge about the structures of human brain, their functions and impact on human behaviour.
- Understanding biological mechanisms involved in psychological processes such as learning, memory, emotion, motivation, sleep and arousal.
- Inculcating an applied perspective on psychopathology including disorders such as Amnesia, Korsakoff's Psychosis, Alzheimer disease, and Anorexia.

CO 3: *PSGE 234 Intergroup Relations*

- Understanding the role groups play in our life.
- Understanding the nature of relationship between groups in terms of cooperation, competition, conflicts, and the like
- Realizing the relevance and consequence of social categorization
- Understanding how group memberships shape one's social identity and colours our perception of others.
- Knowing ways to resolve and manage inter-group conflicts.

CO 4: *PSSC 235 Psychology of Relationships Skill Enhancement Course (SEC1)*

- Understanding of the philosophical and psychological basis of relational interconnectedness that exists between and among members.
- Acquainting with the basics of relationship science to foster an appreciation of the dynamics of establishing, maintaining, and dissolving relationships.
- Appreciating the developmental and social origins of human relationships.
- Developing insights about the psychological consequences of loss and grief (death, divorce, break-up) as well as the healing process.
- Appreciating the importance of positive relational attitudes like self-acceptance, gratitude, forgiveness in establishing and maintaining healthy relationships and practice them in their own lives.

CO 5: *PSCC 241 Developmental Psychology*

- To familiarize students with the nature and scope of Developmental Psychology.
- Demonstrating an ability to understand and distinguish major theoretical perspectives and methodological approaches in human development.
- Developing an ability to identify & provide insights about the milestones in diverse domains of human development across life stages.
- Understanding the contributions of socio-cultural context toward shaping human development.
- Acquiring an ability to decipher key developmental challenges and issues faced across lifespan.

CO 6: *PSCC 242-Counselling Psychology*

- Developing a basic understanding of counseling as a profession.

- Gaining an overview of basic approaches, theories and techniques in counselling
- Developing awareness about the contemporary issues and challenges in counselling.
- Learning about the newer forms of therapy like solution focused therapy, narrative therapy etc.

CO 7: *PSCC 243- Quantitative Data Analysis*

- To understand the basic concepts and statistical methods used in Psychology.
- Understanding the nature of measurement and its various levels.
- Developing skills to use quantitative techniques such as measures of central tendency, variability, and correlation.
- Learning basic techniques of descriptive and inferential statistics (parametric as well as non-parametric).
- To apply the statistical techniques to analyse data, interpret results, and report their findings.

CO 8: *PSGE 244- Psychology at Work Generic Elective (GE4)*

- Understanding the meaning and theoretical foundations of I/O Psychology
- Knowing how to apply knowledge of I/O Psychology to the real work settings.

CO 9: *PSCC 245 Counselling Skills Skill Enhancement Course (SEC2)*

- Having a comprehensive understanding of the profession of counselling, particularly in the Indian context.
- Acquiring basic counselling skills of problem identification, and relationship building (e.g. empathy, listening, paraphrasing, unconditional positive regard).
- Demonstrating skills of helping clients. Students may choose relaxation, reducing negative / maladaptive self-talk, and learning skills of terminating the counselling relationship.
- Developing qualities of an effective counselor including increasing self-awareness, reflectivity, self-monitoring and objectivity.
- Developing proficiencies to assist professional counselors during intake interviews.
- Helping clients having mild concerns in life; for instance, acting as peer counselors in the college / community.

CO 10: *PSCC351 Organizational Psychology*

- Developing a deeper understanding of conceptual and theoretical bases of motivation and employees' work attitudes and their relationship with performance and organizational outcomes.
- Understanding leadership processes from different theoretical perspectives.
- Understanding group dynamics, working through conflicts, and working in teams.

CO 11: *PSCC 352 Clinical Psychology- I*

- Developing a foundational knowledge of Clinical Psychology, its historical development (especially w.r.t India) and professional ethics.
- Acquiring knowledge and skills for distinguishing normal and abnormal behaviour and learn the criteria of determining abnormality.
- Developing competencies for assessing the psychological functioning of individuals through techniques such as psychological assessment, observation, and interviewing.
- Developing familiarity with the current diagnostic systems (current edition of the Diagnostic and Statistical Manual of Mental Disorders and International Classification of Diseases- Mental Disorder section)
- Acquiring knowledge about anxiety disorders and Trauma & Stressor-related, Dissociative and Personality Disorders.
- Developing sensitivity towards individual and cultural diversity and understanding its implication in clinical work especially within the Indian context.

- Understanding the essence of a reflective practitioner by engaging in reflective processes that make him or her aware of his or her strengths and vulnerabilities.

CO 12: *PSDE353 Educational Psychology*

- Understanding the meaning and processes of education at individual and social plains in the Indian context.
- Demonstrating an appreciation of various theoretical perspectives on cognition and learning in educational contexts.
- Developing insights into the facilitators of learning such as intelligence, emotion, imagination, creativity and self-processes.
- Understanding the social processes within the classroom and broader societal contexts that shape student's learning outcomes.

CO 13: *PSDE 354 Environmental Psychology*

- Understanding the role of psychological processes (people's attitude, beliefs) in people's responses to environmental problems.
- Understanding the processes related to environmental degradation and their impact on human life.
- Understanding pro-environment behaviour and human-environment transaction and being able to design behavioural interventions to minimize the adverse effects of anti-environment behaviour. 5

CO 14: *PSDE 355 Sports Psychology Discipline Specific Elective [DE3]*

- Familiarizing with the evolving field of sports and exercise Psychology as a profession and having knowledge about its specialities particularly clinical-sport Psychology and Educational Psychology
- Comprehending the links between theory and practice in Sports and Exercise Psychology; understanding the current shifts from traditional paradigms and appreciating the role of practical theory to guide professional practice so that real life issues may be addressed
- Developing a critical understanding of general personality approaches as well as the sport specific personality approaches.
- Being able to develop a psychological profile for a sports person/ team to help assess the psychological skills that can improve self-awareness, goal setting and communication with the coach.
- Understanding the motivational processes for sport and exercise participation especially in the context of achievement motivation and ways of enhancing it.
- Knowing the key aspects of designing and implementing a psychological skills training program and the important psychological skills in training (e.g. focusing attention, arousal regulation, enhancing confidence, and improving motivation.)
- Developing effective communication skills to be able to develop a trusting relationship with the sports persons.

CO 15: *PSDE 356- Psychology of Health and Yoga*

- Demonstrating knowledge of Health Psychology.
- Demonstrating adequate knowledge about issues related to stress, stress management and coping.
- Developing adequate knowledge about the promotion of healthy behavior.
- Appreciating the value of practicing Yoga in daily life through research evidence and in-depth understanding of the promotion of health benefits of Yoga.

CO 16: *PSCC361 Cognitive Psychology*

- Understanding the ways in which humans engage in information processing and developing knowledge of the key assumptions as well as distinguishing features of cognitive psychology.
- Learning the different methods ranging from carefully controlled experimental conditions of the lab to the more subjective method of introspection, to understand human mental processes.
- Acquiring basic knowledge of core concepts in human cognition (e.g., attention, memory, reasoning and decision-making).
- Developing critical awareness about the classic and current experimental research relating to various cognitive processes.
- Demonstrating appropriate skills essential in designing and conducting experiments in cognitive psychology.
- Applying the knowledge of cognitive processes to one's own personal life and to real life issues. (e.g. improving memory, and multitasking).
- Appreciating the role of individual differences, and sociocultural factors in cognitive functioning.

CO 17: *PSCC 362 Clinical Psychology–II*

- Having working knowledge and understanding of the major Psychological disorders and critically review their signs and symptoms (Bipolar, Depressive Disorders, Schizophrenia and Neuro-developmental Disorders).
- Developing a basic knowledge of the various treatments for abnormal behaviour.

CO 18: *PSDE 363 Applied Social Psychology*

- Understanding the key issues and theoretical concepts related to Psychology of women and gender especially with respect to Indian context.
- Developing insights into one's own behaviours as a man (or as a woman) through self-reflectivity.
- Understanding of basic terms, theories and emerging themes used to describe family systems.
- Learning to apply family systems theories and assumptions to one's own family so that it can lead to an increased awareness of one's own family processes and consequently improved family well-being.
- Developing insights into issues related to poverty and deprivation in rural India, interventions for reducing poverty, and motivational concerns related to agriculture and farmers, education and rural development.
- Knowing certain participatory approaches in rural development especially within the Indian context such as participatory rural appraisal.

CO 19: *PSDE 364 Applied Cognitive Psychology*

- Developing an appreciation of how cognitive psychology principles can be applied to real life settings and to understand the nature and scope of Applied Cognitive Psychology.
- Understanding the applications of research based on perception and memory to real life settings.
- Knowing how to apply principles of cognitive psychology to issues related to face identification.
- Developing an understanding of cognitive psychology applications in the area of technology.

CO 20: *PSDE 365 Positive Psychology*

- Appreciating and understanding the meaning and conceptual approaches to happiness and well-being.

- Being able to locate the diversity in the experiences of happiness with individual's lifespan and across different domains.
- Learning the various pathways through which positive emotions and positive traits contribute to happiness and well-being.
- Being able to identify the key virtues and character strengths, which facilitate happiness and well-being.

CO 21: *PSDE366 Human Resource Management*

- Developing the ability to assist HR departments in resolving human resource problems, particularly related to recruitment, selection, performance appraisal, training and career development.
- Demonstrating skills to conduct training needs analysis using appropriate quantitative /qualitative methods.
- Developing skills to conduct job analysis that could form the basis of selection instruments as well as performance appraisal system.
- Acquiring relevant abilities to map competencies of employees of an organization.
- Demonstrating multi-cultural knowledge of HRM and sensitivity towards diversity.

CO 22: *PSCC111- General Psychology*

- Understanding essence of the field of Psychology.
- Appreciation of the scientific nature and scope of the field of Psychology.
- Developing familiarity with basic concepts related to some foundational themes of study in Psychology such as learning, memory, perception, thinking, emotion, motivation, and human biological system including brain.
- Developing familiarity with individual level psychological phenomena such as intelligence and personality.

CO 23: *PSCC112- Applied Psychology*

- Demonstrating the ability to apply psychological knowledge to prevent and solve human problems existing at individual, group and societal levels.
- Knowing the career opportunities that exist within the discipline and profession of psychology and through self-reflection develop insights into appropriate career choices.
- Having knowledge about the ethics and proficiencies required for practitioner Psychologists.
- Acquiring knowledge about Indian Psychological concepts and their applications to understand the close relation of applied psychology with research.
- To be able to communicate effectively to persuade and educate others about solutions to their problems.

CO 24: *PSGE113- Introduction to Psychology*

- Developing knowledge of the basic concepts in Psychology.
- Developing skills for applying Psychological knowledge to real life situations
- Improving interpersonal interactions and adjustment in personal life.
- Appreciate and apply the extensive range of applications of Psychology for the welfare of society.

CO 25: *PSCC 121–Social Psychology*

- Understanding the basic social psychological concepts and familiarize with relevant methods.
- Understanding the applications of social psychology to social issues
- Developing skills pertaining to mapping of social reality and understanding how people evaluate social situations.

- Familiarizing with the concepts of social affect and affective processes including people's harming and helping behaviours.
- Developing an understanding pertaining to social influence processes particularly the influence of others on individual behavior and performance.

CO 26: *PSCC 122 Psychological Assessment*

- Developing an understanding of the basic principles of psychological assessment and its various phases.
- Developing knowledge about the steps in test construction and test standardization.
- Demonstrating understanding of the impact of cultural contexts on assessment.
- Developing knowledge of the ethical and legal issues involved in the assessment process.
- Acquiring knowledge to effectively evaluate the appropriate ness and quality of Psychological tests and their psychometric strengths and weaknesses.
- Developing knowledge about the application of tests in a variety of settings.

CO 27: *PSGE 123- Psychology of Health & Well Being*

- Understanding the spectrum of health and illness for better health management.
- Identifying stressors in one's life and how to manage them.
- Understanding a variety of health enhancing, health protective, and health compromising behaviours and to be able to know their application in illness.
- Developing an understanding of human strengths and virtues, and gain insights into positive aspects of work.

Click here to view Course Structure and Syllabus

7. BA Religious Studies (Honours)

The Bachelor of Arts in Religious Studies (B.A. Honours) offers a three-year program with 148 credit hours. We have eleven faculty in the department who endeavour to prepare the young people to reach these goals.

Program Outcomes

PO 1. To understand the teachings of Hinduism and its impact on contemporary India.
PO 2: To develop an interest to understand the major teachings of Hinduism from the Vedic times till the present.
PO 3: To understand the teachings of Islam and its impact on contemporary India.
PO 4: To understand the main teachings of Mohammed, the prophet, and the main sects of Islam.
PO 5: To comprehend the impact of Islam in contemporary India.
PO 6: To develop a foundational knowledge of the major religions of the world.
PO 7: To inculcate a comprehensive understanding of beliefs, practices, and structures of the Hindu Religion.
PO 8: To learn the art of meditation from the Hindu Religion and adapt the same to the Christian Religion.
PO 9: To do research on Christian and non-Christian religions under the guidance of the teacher.
PO 10: to learn the disciplined prayer life of a Muslim and adapt the same to Christianity.
PO 11: To produce in them a solid training in pastoral and leadership responsibilities
PO 12: To bring out cross-cultural thinking to work both locally and globally
PO 13: To develop in them excellence in knowledge, faith, service and well-being
PO 14: To inculcate a spirit of mission
PO 15: To build a strong foundation for research and innovation
PO 16: To develop the holistic life which includes the physical, mental, social and spiritual life of the students.
PO 17: To develop a thorough knowledge of the Scriptures and to foster a deep desire to be a continuous student of God's word.
PO 18: To foster a deep desire to understand the fundamental teachings of the Seventh-day Adventist Church.
PO 19: To develop skills in Biblical languages, the art of preaching and Pastoral Counselling
PO 20: To have a positive attitude toward God, Religion and the Society.

Program Specific Outcomes

PSO 1: To comprehend the impact of Islam in other countries of the world.
PSO 2: To develop an interest in the study of the teachings of Buddha and the various sects in Buddhism.
PSO 3: To understand the impact of Buddhism in contemporary India.
PSO 4: To develop on interest to study the teachings of Guru Nanak and his successors.
PSO 5. To understand the impact of Sikhism on contemporary India.
PSO 6: To have a knowledge and skill of the individual subjects
PSO 7: To create an awareness of and sensitivity to local, national and global problems related to deprivation, socio- political issues, gender, environment, and discriminatory and exclusionary practices.
PSO 8: To create an interest and capacity for research
PSO 9: To bring about employment capacity (employability)/entrepreneurship/skill development
PSO 10: To develop an aptitude for learning, study, reflection, meditation and prayer

PSO 11: To develop skills to reach people of different faiths and ethnic background
PSO 12::To develop the ability to become an efficient Bible teacher, evangelist, or pastor with the ability to teach and preach.
PSO 13: To develop the capacity to be a responsible and active participant in the welfare of the community.
PSO 14: To create a deep and personal conviction of God's call to the mission of the church.
PSO 15: To instil a Christ-like spiritual maturity for a fruitful personal life.

Course Outcomes

At the end of each course the student will be able to:

CO 1: *MLPR 111Moral Principles*

- develop values of morality, ethics and spirituality by looking at the teachings of various leaders, reformers, and spiritual leaders and the life and contribution of various missionaries
- be good citizens in the community.
- practice Adventist beliefs
- exhibit holistic development.

CO 2: *RSBS 111Intro to the OT*

- be familiar with the major events and people of the Old Testament.
- recognize the different genres of the Old Testament books
- articulate the purpose and message of each book of the Old Testament
- explain the significance of the Old Testament for a contemporary believer

C0 3: *RSBS 113 Intro to the NT*

- Know an overview of all the books of the New Testament.
- Grasp the general epistles and the book of Hebrews beyond the introductory details
- Understand the sanctuary doctrine with its implications in their ministry context.
- Introduce the New Testament to others with confidence.
- Interpret general epistles for mission and ministry purposes with authority.
- Present Jesus Christ as our mediator and high priest in their ministry context.
- Draw insights from New Testament to apply them in their personal life and ministry.
- Grow spiritually to be able to live and inspire a life of faith.
- Develop biblical and theological understanding to apply them and their personal life and ministry.
- Solve problems drawing principles from general epistles.
- Motivate others for mission and ministry.

CO 4: *RSBS 120 Prophets and Psalms*

- have a broad understanding of the prophetic books and Psalms of the Old Testament Bible.
- learn the main teachings and themes of the prophetic books
- learn and apply the principles of interpreting Psalms

CO 5: *RSBS 240 Gospel & Acts*

- Describe the historical context of all the Gospels
- Describe the background of all the four Gospels
- Describe the context of all the Gospels
- Describe various theological teachings of the Gospels as discussed by the Gospel Writers

CO 6: *RSBS 242 Apocalyptic Literature*

- have a broad understanding of the book of Daniel as given in its 12 chapters.

- appreciate the Bible as one sees the fulfilment of various prophecies given in the book.
- review the basic definitions, characteristics and purposes of apocalyptic literature.
- Get a basic overview of the content, imagery and style of the NT book of Revelation.
- think about the original purpose and overall message of this piece of ancient literature.
- get a response of the quality of reading the book of Revelation and Understanding the Apocalypse.

CO 7: *RSBS 351 Pauline Epistles*

- immerse themselves in the New Testament epistles, reading and studying these books for themselves.
- gain an appreciation for the New Testament epistles.
- feel more confident in their understanding and use of the New Testament epistles in their own personal lives and in future ministries.
- grow in their knowledge of the Lord Jesus Christ and grow spiritually as a result of their study.

CO 8: *RSBS 353 Biblical Archaeology*

- understand the value of archaeology in providing the historical and cultural background of biblical times.
- examine various archaeological excavations which have direct or indirect bearing upon the study of the Scriptures.
- know how to interpret and use archaeological information in teaching and preaching.

CO 9: *RSBT 351 Intro to Philosophy*

- provide the general idea of the scope and nature of philosophy
- note the contribution of the philosophy to human culture and development.
- note the influence and impact of philosophy on other branches of learning.
- To aid the student in the development of a sound philosophy of life.

CO 10: *RSBT 360 Intro to Christian Doctrines*

- develop in the student methodological awareness in theological tasks.
- expose the student to the problems and pleasures of doing biblical theology; that is, to foster the growth of theological capability.
- introduce to the student the range and variety of theological thought within the Bible
- point to the manner in which the varieties of biblical concepts may be considered to be unified.

CO 11: *RSBT 362 Eschatology*

- present all the major eschatological events in chronological order.
- acquaint themselves to the Biblical Prophecies which were predicted in advance which would fulfil in the last days.
- Present the eschatological prophecies which have already been fulfilled and the prophecies yet to be fulfilled.
- Believe in the imminent return of Jesus Christ to take His followers to Heaven.
- make the necessary Spiritual preparations to go to Heaven with Jesus Christ at His Second Coming.

CO 12: *RSCH 120 History of the SDA Church*

- understand the role of the gift of prophecy in Biblical times and modern times.
- trace the origin and development of the SDA church and understand its prophetic mission
- acknowledge the continuation of the gift of prophecy in modern times in the life and ministry of Ellen G White

- recognize the value of the prophetic ministry of E G White in the development of the Adventist church

CO 13: *RSCH 231 History of Christianity*

- learn the struggle which the reformers faced to bring the reformation.
- Be acquainted with the significance of the Bible and its study in ushering the reformation into the Church.
- Learn the challenges posed by the Catholic Church to faithful followers of the Bible.
- present the missionary movements into heathen lands.
- get acquainted with the Ecumenical Movement.

CO 14: *RSGE 111 Life and Teachings of Jesus Christ*

- Use the inductive method and other tools for study in order to discover the background of the new testaments and the content of the four gospels.
- Summarize the main events of Jesus' life and explain their significance.
- Summarize the main themes of Jesus' teaching and explain their significance
- Use the inductive method and other exegetical skill to explain the five discourses of Jesus Christ as recorded in the gospel of Matthew with reference to the other gospels.
- Relate the messages of Jesus' teaching as a whole and of those five discourses to the present day.

CO 15: *RSMS 240 Intro And App. To World Religions*

- Have a foundational knowledge of the major religions of the world.
- Have a comprehensive understanding of beliefs, practices, and structures of the religions.
- effectively inculcate the culture of doing research to find out the major tenants of the the religions of the world.
- develop a more adaptive and contextualized approach to understand the people of various religious backgrounds.

CO 16: *RSMS 351introduction to Missions*

- Have a foundational knowledge in regards to the Adventist mission.
- Have a comprehensive understanding of the Adventist approach to the gospel commission and the three angels' message in the Bible.
- effectively inculcate the culture of doing "Mission of God" in the Indian context.
- Be more adaptive and contextualized approach to reach the people.

CO 17: *RSMS 360 Hinduism & Islam*

- Have a foundational knowledge of both religions.
- Provide a comprehensive understanding of the philosophies, practices, and structure.
- develop a more adaptive and contextualized approach to address the people of both religions.

CO 18: *RSPM 231 Introduction to Pastoral Ministry*

- understand the significance of the call to the gospel ministry.
- see the relationship between the minister and the gospel ministry
- understand the relationship between the minister and the world church
- understand the relationship between the minister and the local church.
- have a theoretical and practical knowledge of the services of the church
- have a working knowledge of the policies governing the functioning of the Adventist Church

CO 19: *RLBT 351Biblical Hermeneutics and Homiletics*

- learn principles in the construction of a sermon, its outline, form and purpose.
- develop acceptable and effective methods of sermon delivery.

- acquire skills in the preparation and presentation of various types of sermons

CO 20: *RSPM 351 Church Planting and Church Growth*

- learn the principles that lead to church planting and its growth.
- Observe and work with a church growth program and analyse its potential for church growth.
- Describe and explain the various strategies used in church planting.
- develop a more adaptive and contextualized approach to reach people and initiate the planting of a church.
- Observe and evaluate a local church planting effort.
- Assist in the planting of a new, growing, reproducing church.
- Inculcate the principles of Mentoring and Discipleship for the growth of the church.

CO 21: *RSPM 360 Leadership and Contemporary Issues in the Ministry*

- understand the basic principles of a Christian leader.
- develop the quality of leadership in the students that are required for effective church growth.
- Learn the fundamentals of society and the church.
- see social problems as God sees it.
- Have a comprehensive understanding and difference between the personal problem and social problem and their effect on mission and ministry in a context.
- Have an idea of God's concern for society, both inside and outside of the church.
- develop a more adaptive and contextualized approach to meet people's needs.

CO 22: *RSPM 362 Chaplaincy & Pastoral Counselling*

- Develop deeper biblical spirituality
- Learn skills pertinent to the practice in the field of chaplaincy and spiritual care
- Intensify commitment to ministry
- Gain understanding of chaplaincy within the context of Adventist theology
- Develop an Adventist perspective of evangelism, mission and ministry
- Experience positive collegial relationships

CO 23: *RSSE 231 Hebrew Skills*

- study Classical Hebrew in a simple and interesting way
- learn the language from the alphabets and Vowels to more complicated grammatical structures.
- read the Hebrew Bible with ease
- write Hebrew and form sentence structures
- To be able to use lexical material for biblical studies in the original language.

CO 24: *RSSE 240 Greek Skills*

- Write the Greek alphabet
- Understand basic Koine Greek grammar
- Translate basic Greek phrases and sentences
- Parse Greek words and analyse the grammar and syntax of basic Greek sentences
- Demonstrate acquisition of basic Greek vocabulary.

Click here to view Course Structure and Syllabus

8. BA Sociology (Honours)

Program Outcome

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

PO 1: *Critical Thinking* - demonstrate the ability to analyze and evaluate multiple and competing social, political, and/or cultural arguments.
PO 2: *Sociological Imagination* - the ability to articulate and evaluate how individual biographies are shaped by social structures, social institutions, cultural routines, and multiple elements of social differences and/or inequality.
PO 3: *Communication* - the ability to formulate effective and convincing written and verbal arguments.
PO 4: *Diversity* – an awareness of how people of different cultural, religious, and political belief systems interpret the world around them through those beliefs.
PO 5: *Sociological Theory* - the ability to use and evaluate both classical and contemporary perspectives in sociological theory.
PO 6: *Methodology* - the ability to interpret and evaluate several of the major social science research methodologies, as well as the relationship between research questions and appropriate methods.
PO 7: *Substantive Areas* - the ability to demonstrate knowledge of multiple key substantive areas within the field of sociology and evaluate competing perspectives.
PO 8: *Social Justice* - the ability to articulate and evaluate how sociological insights should inform a commitment to social justice.

Programme Specific Outcomes

PSO 1: *Through the development of an understanding of sociological theories and concepts students can demonstrate the role of theory in sociology***.**

- Compare and contrast basic theoretical orientations.
- Apply basic theories or theoretical approaches in at least one area of social reality.

PSO 2: Scholars can demonstrate an understanding of data collection and analysis techniques that sociologists to critically evaluate sociological research.

- Demonstrate an understanding of the differences among the basic methodological approaches for gathering data.
- Critically assess a published research report and explain how the study could have been improved.

PSO 3: *Students can understanding of the diverse forms and sources of social stratification, inequality, and difference that exist in society.*

- Students can demonstrate knowledge and comprehension of: culture, social change, socialization, stratification, social structure, institutions, and differentiation by and the intersections of race/ethnicity, gender, age, and class.
- Students can define and explain the relevance of each concept.

PSO 4: *Pupils will develop understanding of the social and cultural processes and structures that inform social interaction***.**

- Describe the inter-linkage of institutions and their effects on individuals.
- Explain how social change factors affect social structures and individuals.
- Identify examples of specific social policy implications using reasoning about social structural effects.

PSO 5: *Students will develop an understanding of the reciprocal relationships between individuals and society.*

- Explain how the self develops sociologically.
- Demonstrate how social interaction and the self-influences society and social structure.

PSO 6: *Through the development of an understanding crime, law, and the criminal justice system, students can demonstrate the role of criminological theory as framework for understanding crime rates and patterns.*

- Compare and contrast basic theoretical orientations in criminology.
- Describe how criminology differs from and is similar to other social sciences, and give examples of these differences.

Course Outcomes

CO 1: *SOCC 111 Introduction to Sociology I*

- The students learn to apply the sociological perspectives in understanding the role of society in shaping our individual lives.
- It also provides a foundation for the other more detailed and specialized courses in sociology.
- The students also learn about the basics of doing fieldwork and use it for doing fieldwork-based projects. They also learn to write project reports.
- The students learn how to read and interpret complex ideas and texts and to present them in a cogent manner.

CO 2: *SOCC 112 Sociology of India I*

- Through images, ideas, concepts and institutions of India
- Students get depth understanding of Indian society.
- contributes to the development of critical and analytical thinking.

CO 3: *SOGE 113 Indian Society: Images and Realities*

- A familiarity with ideas of India in their social and historical context.
- An acquaintance with key institutions and processes of Indian society.
- An ability to understand social institutions with sociological Imagination with a critical and comparative spirit.
- A preliminary understanding of sociological discourse on Indian Society.
- A capacity to situate contemporary public issues pertaining to Indian society in the context of these enduring institutions, processes and contentions.

CO 4: *SOCC 121 Introduction to Sociology* Ii

- The students are introduced to the relationship between theory and perspectives.
- The students are introduced to sociological theories, which they learn in greater detail during the later semesters.
- This paper also provides a foundation for sociological theories that are a part of papers in the subsequent semesters.
- The students learn critical thinking skills. They learn how to read, interpret and critique original works of various thinkers.

CO 5: *SOCCI 122 Sociology of India Ii*

- The course adds to the sociological interpretation of Indian society.
- The course sharpens the faculties of critical and analytical thinking and doing.
- The course will encourages students to reflect deeply on the multicultural reality, which is the defining feature of India.

CO 6: *SOGE 123 The Sociology of Education*

- An understanding of the social dimensions of education and its dialectical relationship to the production and reproduction of various social structures, categories and identities.
- An exposure to the historical trajectories of educational practices and cultures at various levels in India
- The ability to make connections between the political economy of global educational regimes and the consequent transformation of institutional structures and practices.
- An appreciation of the importance of cross cultural and historical comparisons as well as micro and macro perspectives in apprehending any aspect of education.
- The course enables students to reflect on their own educational trajectories and analyse its intersections with larger socio-cultural developments.

CO 7: *SOCC 231 Political Sociology*

- An ability to comprehend the embeddedness of political and the social in each other.
- Familiarity with different theoretical and conceptual issues in political sociology and a capacity to use them to grasp political phenomena in a cross-cultural and comparative perspective.
- Be able to understand and appreciate the diversity of ways in which politics operates historically and spatially to generate a more expansive notion.

CO 8: *SOCC 232 Sociology of Religion*

- Students will be acquainted with representative texts that symbolize the development of knowledge in the field of Sociology of Religion.
- They will be able to identify different theories, approaches and concepts that make up the study of religion, distinguish between them and also use terms specific to the field in specific context.

CO 9: *SOCC 233 Gender Studies*

- This study generate ideas and sensitivity about gender
- This will lead to change the biases and gender practices
- Students can dream of a society where both men and women can enjoy their basic rights

CO 10: *SOGE 234 Sociology of Mass Media*

- Define basic concepts in sociology of communication.
- Identify role of media in modern society.
- Assess the impact of ownership influences on operations of media production.
- Express the real importance and need of mass media and communication.
- Create desire for the study of mass media and communication.

CO 11: *SOSC 235 Life Skills Development*

- Understand various domains of life skills
- Have the confidence to communicate.
- Able to demonstrate the efficiency of making career decisions.
- Able to face interviews/ Public speaking/Presentations
- Able to show efficiency in handling work pressure, stress, conflict and anger management.

CO 12: *SOCC 241 Economic Sociology*

- have an overview of key concepts economic sociology
- Demonstrate understanding of economic sociological perspective
- Critical analysis addressing problems within the field of economic sociology
- Link economy with the social dynamics

CO 13: *SOCC 242 Marriage, Family and Kinship*

- To become familiar with concepts and theories relating to marriage, family and kinship
- To become familiar with contemporary issues relating to family and kinship
- To gain appreciation for the cultural diversity of family and kinship
- To understand the practice of kinship for establishing social relations and for performing economic activities

CO 14: *SOCC 243 Social Stratification*

- the socio-historical context of stratification theoretical concerns and problems and contemporary issues related to inequalities s and its forms.
- inter-disciplinary approach in the study of society especially stratification in all its manifestations.
- Understanding of stratification and theories would sensitize students to its various sociological aspects, providing ample scope for applied learning and application.
- Examining forms of stratification, understanding the relevance of caste, race and ethnic identities in contemporary world.

CO 15: *SOGE 244 Population And Society*

- Identify and apply the major theoretical perspectives in Population Studies and assess the conceptual differences among them.
- Understand the implications of theory and sociological demographic research.
- Understand the importance of census and appropriate use.
- Develop the ideas about policies, planning and its need.

CO 16: *SOSC 245 Leadership Skills*

- understand/assess their skills, strengths and abilities
- demonstrate a set of practical skills such as time management, self-management,
- handling conflicts, team leadership, etc.
- demonstrate entrepreneurship and develop business plans
- Apply systems and design thinking approach for leadership
- Appreciate the importance of ethics and moral values

CO 17: *SOCC 351 Sociological Theories I*

- Describe the works of classical sociologist that shaped the discipline.
- Explain background concepts of development of sociological theory.
- Asses the major theoretical traditions and concepts.
- Adjust and practically apply the concept of classical concepts.

CO 18: *SOCC 352 Research Methods I*

- explain key research concepts and issues
- read, comprehend, and explain research articles in their academic discipline

CO 19: *SODE 353 Urban Studies*

- The student can develop a grip on the key concept of urban society.
- enable the student to understand modern developed society in a better manner.
- to note the heterogeneities in urban places, institutions.
- functions, changes, the contrasts found between the rural urban societies and the problems faced by the people. This will develop analytical perspective among students.
- understand the relevance of urban planning and development.

CO 20: *SODE 354 Sociology of Work*

- Understanding work in its social aspects such as gendered work and unpaid work, as different from its better known economic dimension.

- Understanding work in its global dimensions, including the mutual relation between work in underdeveloped societies and that in developed ones, thus bringing out the importance of the comparative perspective in the study of work.
- Learning about the complexities, disparities and inequalities in the area of work.
- Learning about the socio-historical context of work, theoretical concerns and problems, and contemporary issues in the area of work and industry.

CO 21: *SODE 355 Agrarian Sociology*

- An empathy for and ability to engage agrarian communities as living societies and understand grasp they condition as human condition.
- An appreciation of agrarian world and familiarity with the trajectory of theoretical conversation on agrarian issues and their social, political and policy implications.
- An understating of emerging as well as enduring issues of concern in Indian agrarian scene.
- To be ready for a range of academic and professional roles that may require a knowledge of agrarian societies.

CO 22: *SODE 356 Environmental Sociology*

- Disseminate knowledge about the significance of environment for society
- To change the practices that can protect and preserve the environment
- To make the students participate in the mission to preserve, protect and promote the cause of environment

CO 23: *SODE 361 Sociological Theories Ii*

- To acquaint students with contemporary sociological theorists and their work.
- To provide a Historical as well as an intellectual and social context with in which sociological theories have developed.
- To enable students to assemble ideas about sociological theories and convert them into coherent arguments of high order by using the tools and techniques of critics' analysis.

CO 24: *SODE 362 Research Methods Ii*

- The role and importance of research in the social sciences.
- The issues and concepts salient to the research process.
- The complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project.
- The concepts and procedures of sampling, data collection, analysis and reporting.

CO 25: *SODE 364 Sociology of Health and Medicine*

- Sociological approach to understanding health and medicine
- Terms used by those who study health and health care
- Understanding of the social factors linked to physical and mental health, including acute illness, chronic conditions, and mental illness.
- Critical debates on health care issues, such as medical care and public policies.
- Critical thinking and problem-solving skills involved in "doing" sociology.
- Illustrate to students how their sociological knowledge about health issues can be used in the "real world."

CO 26: *SODE 365 Reading Ethenographics*

- At the end of the course students should be able to identify the expanse of social scientific knowledge and be proficient with the technique and have the patience to read, understand and critically analyze full-length texts that are often about another, unfamiliar culture.
- The course aims to encourage interdisciplinary thinking between sociology,

anthropology directly but also with philosophy and literature, through reading of ethnographies. It also seeks to bring the student to a global standard of familiarity with different types of classics within the combined disciplines of sociology, anthropology and ethnology.

- The Course will enable students to not only come to terms with the making of human knowledge but also identifying limits of enquiry by learning and engaging in critical thinking about the research presented in the ethnographies. They are also expected to be able to work with ethnographic description as a unit of knowledge at par with numbers in quantitative studies.
- Doing this Course will help the student discover the strength of small details and to identify what matters to people. They would also be able to engage with the community and understand the significant role of subjective and objective knowledge systems through the exercises in participant observation

CO 27: *SODE 366 Visual Culture*

- Developing the techniques to understand and appreciate visuals; working with visuals as potential representations of matters of sociological interest.
- Understanding 'visuality'/'visualization' as a technique of asserting power and dominance in society; simultaneously locating the subversive potential of alternative or 'counter-visualities.
- Discovering the strength of 'visuals' in an age dominated by techniques of mass production and dissemination of images.

Click here to view Course Structure and Syllabus

Post Graduate (Duration for PG programs: 2 Years)

1. MA Education

Programme Outcomes

Programme Learning Outcomes in Education course include subject-specific skills and generic skills, including transferable global skills and competencies, the achievement of which students are able to demonstrate for the award of MA Degree in Education qualification.

A graduate in MA Education will be able to:
PO 1: Develop a critical reflection on the nature and purpose of Education
PO 2: Design, implement and evaluate the curriculum at any level
PO 3: Discuss, critique, and document their understanding of various teaching strategies.
PO 4: Demonstrate their mastery in lesson planning.
PO 5: Appreciate the role of teaching methods and strategies for instructional planning
PO 6: Identify the forces that inhibit teaching and learning process.
PO 7: Assess the impact of technology as teaching tool.
PO 8: Articulate how values can be integrated into classroom instruction.
PO 9: Understand how school acts as a social institution.
PO 10: Analyze the impact of home and school in one's life.
PO 11: Develop the ability for critical and logical thinking and to identify problems and analyse those problems.
PO 12: Prepare formal papers and presentations that reflect research and critical analysis.
PO 13: Demonstrate mastery of using classroom assessment and evaluation techniques in a classroom.
PO 14: Refine the skills needed to become a reflective professional in the design of assessment and evaluation methods and tools. .
PO 15: Gain understanding of the main elements of statistics and apply them to problem solving
PO 16: Understand basics of qualitative and quantitative research and techniques of qualitative and quantitative data analysis
PO 17: Apply principles of statistics in the area of research methodology and data
PO 18: Understand relation between Education and Psychology; and application of Principles of Psychology in Education.
PO 19: Acquaint students with basic concepts and factors related to Life Span development.
PO 20: Understand the different types and approaches in Guidance and Counselling.
PO 21: Understand the concept of Mental Health, Mental Hygiene and promoting Mental Health.

Program Specific Outcomes

PSO 1: Acquaint with foundations of Educational administration and leadership/ curriculum studies.
PSO 2: Understand the principles of Educational Supervision / Curriculum design and development.
PSO 3: Analyse the legal aspects of Human Resources Administration as the foundation for effective policy formulation.
PSO 4: Understand the techniques & process involved from hiring to firing.
PSO 5: Analyze the basic principles of organization management in the 21st century

PSO 6: Demonstrate an understanding of the mobilization and management of finance and marketing.
PSO 7: Understand the impact of political cultural, social and religious situations in different countries and its impact on schooling.
PSO 8: Critique and document five learning disciplines in school situation.
PSO 9: Understand the impact of change on an institution
PSO 10: Provide internship in administrative and leadership of school/ curriculum and instruction of school.

Course Outcomes

Course outcomes in MA Education include subject specific skills and generic skills, including transferable global skills and competencies, the achievement of which students are able to demonstrate for the award of MA Degree in Education qualification.

A graduate in MA Education will be able to develop expertise in:

CO 1: *EDCC 511: Philosophical and Sociological Foundations of Education*

- Describe the nature and scope of educational philosophy,
- Reflect on the philosophical issues in education
- Analyze the traditional, modern philosophies
- Describe various contemporary theories of education
- Analyze Eastern Thinkers and Western Thinkers
- Discuss the impact of sociology on education and education on sociology
- Discuss the idea social change, Education as a Social System and the role culture in education.
- Analyse Deschooling Society, Freedom, Discipline and Responsibility in Education.
- Understand education for National Integration & Internationalism Understanding
- Develop a personal educational philosophy
- Equips students with the understanding of different philosophy and their impact in education

CO 2: *EDCC 512: Fundamentals of Teaching*

- Demonstrate a systematic knowledge on the variables affecting teaching
- Use knowledge of learning theories to understand the students
- Apply the principles of management of learning environment
- Use vocabulary, inherent in teaching methods and strategy
- Discuss, critique, and document their understanding of various teaching strategies
- Be able to use various strategies for lesson development to present lesson plans.
- Critique and appreciate different teaching methods and strategies for instructional planning.
- Be able to develop one's own opinion on different teaching methods and strategies for various contents.
- Assess the impact of ladder of experience in teaching.
- Articulate how values can be integrated into class room instruction.
- Conduct collaborative group and make presentation of one class project (individual or group project)
- Be able to develop one's own opinion on different teaching methods and strategies for various contents.

CO 3: *EDCC 513: Research Methodology*

- Understand the basic concept of research, and differentiate between different methods/types of educational research.
- Identify the components of the different chapters in an academic research document.
- Identify the various types of researches in quantitative and qualitative areas.
- Understand the tools of research, data preparation & data analysis methods.
- Demonstrate the use of good mechanics in writing a research paper.
- Evaluate and critique various types of educational researches
- Develop a sample research proposal
- Develop a sample research proposal

CO 4: *EDCI 514: Foundations of Curriculum Studies*

- Understand and be able to use vocabulary, inherent in curriculum development.
- Describe the historical foundations of curriculum development in India
- Explain the various curriculum approaches
- Identify the roles and responsibilities of curriculum worker.
- Analyze and compare the traditional and contemporary educational philosophies.
- List the functions of Psychology for a curriculum worker.
- Comparison of three major theoretical schools with psychology of learning in curriculum.
- Discuss the societal foundations for curriculum development
- Discuss, critique, and document their understanding of the idea of curriculum processes
- Demonstrate their mastery in the theoretical discourses in the foundation of curriculum development & curriculum management.

CO 5: *EDAL 514: Foundations of Educational Administration and Leadership*

- Identify the major development of administrative theory
- Describe the key elements and models of organizational structure.
- Analyze how organizational culture and climate is maintained, changed and conceptualized.
- Understand the theories & importance of motivation.
- Describe leadership theories, styles & types.
- Understand Decision-making - Nature, types, models and rules.
- Describe Group decision making on the basis of benefits, problems & techniques
- Be able to communicate better in school.
- Describe the concept and areas of change
- Comprehend the dimensions of conflicts and its impact on the institutional managers.
- Apply theories and practices that support effective educational leadership. In context which administration operates, I e. the school organization and view at the processes, tasks, roles and relationships that guide the educational leaders' work.

CO 6: *EDAE 515: Information Communication and Technology*

- Understand the concept, need, and importance of ICT in education
- Describe the vision, mission and goals of National Policy
- Apply the ICT skills in teaching and learning
- Acquaint with the use of technology in teaching.
- Appreciate the role of ICT in teaching and learning
- Demonstrate the use of ICT in the classroom. .
- Develop Digital Rubrics.
- Describe Intra net and Internet
- Explain the Technology Based Assessment

- Be aware of challenges in the use of ICT
- Be familiar with legal, ethical and safety issues in the use of ICT
- Equip with confidence the usage of ICT in teaching learning process

CO 7: *EDCC 521: Psychological Development: The Growth Years*

- To acquaint students with basic concepts and factors related to growth and development.
- To help students to understand the process of pre-natal development and the roles of heredity and environment .
- To enable students to analyze and evaluate the developmental aspects of infancy, and early childhood.
- To enable students to analyze and evaluate the developmental issues associated with middle childhood and adolescence stage.
- To promote in students an understanding of various stages in human development.
- To promote in students an understanding of various developmental challenges and adjustment problems one encounters in adulthood
- Helps in knowing the processes during the growth cycle of an individual thus able to understand the school-going child.

CO 8: *EDCC 522 Assessment & Evaluation for Learning*

- Understand and be able to use vocabulary, concepts and strategies inherent in the assessment and evaluation process.
- Prepare rubric for a variety of measurement purposes.
- Discuss, critique, and document their understanding of current Assessment and Evaluation issues.
- Demonstrate their mastery of using classroom assessment and evaluation techniques in a classroom.
- Be able to teach their colleagues how to use classroom assessment and evaluation techniques.
- Refine the skills needed to become a reflective professional in the design of assessment and evaluation methods and tools.
- Demonstrate their mastery of using classroom assessment and evaluation techniques in a classroom

CO 9: *EDCC 523: Educational & Psychological Statistics and Qualitative Data Analysis*

- Gain understanding of the main elements of statistics and apply them to problem solving
- Understand basics of qualitative research and techniques of qualitative data analysis.
- Develop understands the basic difference between quantitative and qualitative analysis method.
- Understand the role and use of statistics in educational research.
- Select the appropriate statistical methods in educational research.
- Apply principles of statistics, in the areas of research methodology and data analysis to understand better how to maximize the potentials for students.
- Make a presentation of one class project (individual or group project)
- Apply principles of statistics, in the areas of research methodology and data analysis to understand better how to maximize the potentials for students

CO 10: *EDCC 524: Educational Organisation & Management*

- Understand the Concepts and Aims of Educational Management
- Reflect the Characteristics and Scope of School Management

- Describe School as an Organisation
- Reflect Challenges of School Organisation
- Identity elements and aspects of School Organisation.
- Recognize the levels of Educational Management
- Discuss School Control
- To develop their understanding of all School Administration and to help them in their solution.
- Provides an overview of Educational Organisation and Management by drawing lessons from theory and practice

CO 11: *EDCI 525: Curriculum Design & Development*

- Distinguish the vocabulary used in curriculum development
- Understand the various curriculum designs
- Analyse the various aspects of upgrading curriculum for 21st learning
- Evaluate various curriculum development models
- Understand the dimensions of curriculum implementation
- Acquaint to various models of curriculum evaluation.
- Analyse the curriculum of various school boards
- Refine the skills needed to become a reflective professional in curriculum design and development

CO 12: *EDAL 525: Principles of Educational Supervision*

- Explain supervision and sources of authority.
- Identify the role and function of a supervisor and explain a framework for supervision
- Explain the relation between Supervision and moral character of learning and teaching
- Identify the various types, of supervisor's platforms.
- Analyze the concept of authentic teaching and learning.
- Describe various approaches of curriculum
- Differentiate curriculum development and design
- Analyze the types of supervision with emphasis on clinical supervision.
- Describe a professional Development for Teacher Leadership.
- Understands the components for building curriculum.
- Describe causes for motivation and satisfaction in the teachers' workplace.
- Describe climate, culture and change in the context of supervision.
- Identify the methods and problems of evaluation.
- Helps to understand the role and function of a supervisor, sources of authority. The types of supervision and types of supervisor's platforms.

CO 13: *EDCC 631 Psychology of Learning and Special Education*

- Understand the meaning, nature and scope of psychology
- Understand the nature and concept of learning
- State the different stages and principles of growth and development
- Explain the various principles and theories of learning;
- Understand the various disabilities and its causes
- Explain the concept of special education
- Understand various theories of learning and its application

CO 14: *EDCC 632: Emerging Trends for Improving Instruction*

- Develop awareness and appreciation of the various teaching strategies which can be used to teach a variety of disciplines.

- Demonstrate knowledge and skill in Dimension of Learning (DOL).
- Develop appropriate teaching material and submit lesson plans for each of the models taught.
- Develop a unit plan (one-two weeks) that incorporates a variety of models written in DOL format.
- Write and present lesson plans.
- Appreciate the role of teaching methods and strategies for instructional planning
- Identify the forces that inhibit the teaching and learning process.
- Articulate how values can be integrated into classroom instruction.
- Work effectively in a collaborative group (discussion, group project)
- Demonstrate knowledge and skill in Dimension of Learning (DOL)**.**Work effectively in a collaborative group (discussion, group project)

CO 15: *EDCI 633: Systems, Concepts And Change*

- Understand and be able to use vocabulary, concepts and strategies inherent in systems theory and change.
- Analyze the concept of systems thinking, learning organization, innovation and change.
- Discuss, critique, and document their understanding of the idea of a school that learns.
- Demonstrate their mastery in identifying the five learning disciplines in school situation or classroom.
- Be able to assess the current reality of schooling.
- Write and present a critique paper on organizations that learns
- Refine the skills needed to become a reflective professional in the context of reframing learning
- Refine the skills needed to become a reflective professional in the context of reframing learning

CO 16: *EDCI 634: International Perspective In Curriculum*

- Understand about the difference in political, cultural, social and religious situations of different nations.
- Develop an understanding about the education system of different nations around the world.
- Differentiate between the education system and policies of different nations and will have an insight which country is better in education system when compared to other nations.
- Develop an understanding about the various successes, challenges, debates and issues faced by the educators of different nations.
- Will be able to compare the education system of India with other countries of the world.
- Provides the knowledge of the education system of different countries in the world

CO 17: *EDAL 633 Human Resources Administration*

- Become knowledgeable of the concepts and issues inherent in Human resources administration.
- Analyze the basic principles of organization and management in the 21st century relate to the development of organizational climate and culture.
- Discuss the basic principles of Strategic planning.
- Become acquainted with the legal aspects of human resources administration as the foundation for effective policy formulation

- Investigate the techniques in the recruitment, selection, hiring, compensation and development of personnel used in the school system
- Discuss the basic principles of Promotion, Discipline & grievances and Employees Association.
- Be able to assess the personnel practices used in the school.
- Report the organizational orientation, professional development and appraisal conducted in contemporary schools.
- Equips with the techniques in the recruitment, selection, hiring, compensation and development of personnel used in the school system

CO 18: *EDAL 634 Educational Finance And Marketing*

- Identify the essence and significance of financial management.
- Reflect the investment function.
- Discuss the expenditure management.
- Reflect on the school finance and accounting.
- Describe the purpose and methods of auditing.
- Discuss significance, types & methods of budgeting.
- Analyze the cause of wastage
- Discuss risk management.
- Identify marketing and strategies for planning.
- Describe the 7P's of marketing.
- Integrate Spiritual values in all aspects of School finance and marketing.
- Gain understanding of the main elements of management and apply them to problem solving in school
- Apply principles of school finance and marketing particularly in the areas of budgeting, resource allocation, and strategic planning to better understand how to maximize the potentials for students and staff and management.
- Synthesize research and scholarship related to selected topics in educational finance and marketing.
- Equips with principles of school finance and marketing particularly in the areas of budgeting, resource allocation, and strategic planning to better understand how to maximize the potentials for students and staff and management.

CO 19: *EDGE 635: Value Education*

- Understand the concept, meaning and nature of value Education.
- Explain the lessons in value education.
- Know the types of values and social evils.
- Identify the role of value education to face social problems.
- Integrate values with curricular and extracurricular activities
- To develop the structure for value education.
- Recognize values for self, society, and environment.
- Recognize values for self, society, and environment.

CO 20: *EDCC 641: Instructional Media And Technology*

- Identify the influence that technological development has on education.
- Demonstrate the use of instructional media for teaching and learning.
- Discuss the advantages and disadvantages of instructional media.
- Construct and operate a wide variety of instructional media.
- Develop showmanship when using instructional materials.
- Study the principles when using instructional materials.

- Trains students to use different teaching aids using media and other instructional material

CO 21: *EDCC 642 Guidance And Counselling*

- Develop an understanding the concepts of guidance and counselling
- Know about the basic need and importance of guidance services in school
- Describe different approaches to counselling
- Determine the various goals of counselling
- Develop an understanding of different types of disabilities.
- Identify the phases of counselling process
- Narrate alternative or innovative methods of counselling
- Analyse the various counselling skills needed to make effective counselling.
- Analyse the various counselling skills needed to make effective counselling.

CO 22: *EDCC 643 Research Project & Oral Defence*

- Equipped to conduct educational research as a preparation for doctoral study.
- Develop a range of research skills required for research
- Engage closely with current research projects in the particular field
- Apply appropriate techniques of analysis to specific research problems.
- Acquire basic skills in the analysis and interpretation of research data
- Appreciate the underlying cognitive processes involved in conducting educational research as a form of thinking and problem solving
- Develop a range of research skills required for research

CO 23: *EDCI 645 Curriculum & Instructional Internship & Seminar*

- Observe a senior teacher teaching a lesson.
- Observe the facilities of the school
- Observe the co-curricular activities of the school
- Assist school teachers in their day to day activities
- Interact with teachers and students in the school getting to know the routines, challenges and joys of school teaching.
- Conduct two lessons in the school.
- develop a range of skills to be an effective teacher/ supervisor, conduct various activities related to school organization

CO 24: *EDAL 645: Administrative & Leadership Internship and Seminar*

- Develop an Educational vitae.
- Design a Five-year professional development plan.
- Experience the art of reflective practice.
- Increase knowledge base and skill performance abilities.
- Attend two educational seminars.
- Present a paper in one educational seminar.
- develop a range of skills to be an effective administrator by increasing the knowledge base and skill through internship activities

CO 25: *EDGE- 644: Contemporary Issues In Education*

- Know the different national policies in education.
- Discuss the contributions of Education commissions in post independent India.
- Describe the constitutional provisions of education.
- Understand equality and equity in education.
- Know the structure of Indian society.
- Be acquainted with the new trends in modern Indian Society.

- Know different contemporary problems and issues in Indian education.
- Be acquainted with the various educational commissions of India and be aware of the new trends and problems in modern Indian Education.

Click here to view Course Structure and Syllabus

2. MA English

Program Outcome

PO 1: To develop personal and professional abilities through effective communicative skills and moulding the students socially to be responsible citizens.
PO 2: To increase employability of the students by developing their linguistic competence and communicative skills.
PO 3: The English literature in the curriculum provides students with learning experiences to appreciate, enjoy, motivate self-expression, and creativity; furthermore, to enable students' critical, analytical, and language competence skills in the use of English.
PO 4: To develop students' cultural understanding as well as positive values and attitudes to prepare themselves for their future career.
PO 5: To sensitize the students to the different theoretical aspects of teaching language and Literature in India.

PO 6: With the enabled close reading skills and ability the students will eventually be able to articulate the value of close reading in the field of literature, creative writing, or language.
PO 7: To show familiarity with major literary works, genres, periods, and critical approaches to British, American, Indian, commonwealth and World Literature.
PO 8: To enhance the student's ability for effective writing in terms of style, depth, style and creativity appropriate to the content, the context, and nature of the subject.
PO 9: To enable efficiency in carrying out research projects confidently.
PO 10: To enable the students in understanding the relations among culture, history, and texts and consequently articulate it.
PO 11: To alert learners that there is always an urgent need to expand and constantly upgrade knowledge.
PO 12: To enhance the capacity of expressing critical ideas in speech and writing.
PO 13: To instil ethical ways of executing projects or assignments.
PO 14: To enable students to interact effectively with peers, faculty and management and effectively develop themselves in holistic cognizance of their surroundings and appreciate aesthetics in everyday life.

Program Specific Outcome

PSO1: To acquaint students with the styles, genres, and themes etc. in the field English Literature.
PSO2: To familiarize the students with the different methods of teaching language and literature
PSO3: To sensitize students to the various factors/problems faced by the teachers and students in teaching and learning language and literature in the Indian context.
PSO4: To demonstrate proficiency in understanding different approaches to analyzing commonwealth literature.
PSO5: To introduce learners to the structures and formations of words, and the functions of surface and deep phrase structures.
PSO6: To introduce learners to writers of English Literature across ages and continents.
PSO7: To demonstrate competence in areas of English Language and Literature Teaching.
PSO8: To demonstrate skills needed to carry out original and persuasive research in the field of English language and literature.
PSO9: To gain mastery over techniques of creative writing.

PSO10: To display knowledge in literary and critical thinking.
PSO11: To learn creative writing skills of interpretation, analysis, appreciation of literature as well as writing and presentation skills that would eventually help in careers like journalism and media, publishing, research and teaching will be inculcated in the students.
PSO12: To get a deep understanding of Indian Literature written in English.

Course Outcome

CO 1: *ENCC 511- British Literature 1550-700*
- acquainted themselves with various techniques, styles, genres, themes, in the field of English literature from Elizabethan to early Neo- Classical age.
- developed a sense of critical appreciation for the literature of the relevant period.

CO 2: *EN CC 512- Literary Criticism and Theory*
- Initiated into the theoretical understanding of literature well equipped with the knowledge of literary framework.
- Think critically about a range of literary theories.

CO 3: *ENDC 513- Research Methodology*
- a clear understanding about the various concepts in research methodology.
- defined a research problem.
- developed an approach to the research problem and selected a suitable research design.
- conducted an independent research on the area chosen with the assistance of the teacher.

CO 4: *ENDC 514- American Literature*
- Demonstrated a clear understanding of the historical and cultural progress of American Literature.
- Identified major themes in American Literature.
- Appreciated the uniqueness and sensibilities of American Literature. ----

CO 5: *ENDC 515- Postcolonial Literature*
- developed interpretative skills of close reading of the postcolonial works in relation to post-colonial theory.
- understood the power struggle and hegemony in the colonial and postcolonial theory.

CO 6: *ENGE 516- Women's Writing*
- Recognised and discuss aspects of women's writing
- Demonstrated understanding of critical and theoretical debates surrounding women's writing.
- Demonstrated awareness of cultural and intercultural concerns relating to women's writing.
- Interpreted and analysed literary works by women.

CO 7: *ENCC 521- British Literature 1701-1800*
- acquainted themselves with the styles, genres, and themes etc. in the field English literature from 1701-1800.
- develope a sense of critical appreciation for the literature of the relevant period.

CO 8: *ENDC 523- English Language and Literature Teaching*
- familiarised themselves with different concepts and techniques of teaching English.
- demonstrated a fair understanding of the challenges faced by teachers of English in India

CO 9: *ENDC 525- Shakespeare*

- learnt to interpret plays written by Shakespeare.
- understood the nature of the dramatic genres in which Shakespeare wrote
- known several Shakespearean sonnets and appreciated Shakespeare's contribution to the form.

CO 10: *ENGE 526- Commonwealth Literature*

- learnt to efficiently interpret, explain and critique complex postcolonial texts.
- demonstrated proficiency in understanding different approaches to analysing commonwealth literature.

CO 11: *ENCC 631- British Literature 1801-1900*

- acquainted themselves with the new techniques and styles in the Romantic Movement as opposed to the preceding Neo-Classical Age.
- understood the Victorian sensibility and morality in the literature of the age.

CO 12: *ENCC 632- Indian Writing in English*

- understood the historical origin and development of Indian literature in English.
- Accept Indian writing in English as a variant form of English literature.

CO 13: *ENDC 633- English Language Today*

- A fair knowledge of the sounds and phonetic symbols of English
- Improved their speaking skills
- learned the structures and formations of words, and the functions of surface and deep NP structures.

CO 14: *ENCC 634- Semantics and Pragmatics*

- a clear understanding of basic concepts between pragmatics and semantics.
- used language based on the context
- learnt to choose their words and understood the meaning of the conversation, between the addresser and the addressee.

CO 15: *ENDC 635- British Literature 1901-1945*

- Acquainted themselves with the styles, genres and themes in the field of English literature from 1901-1945
- Developed a sense of critical appreciation for the literature of the relevant period.

CO 16: *ENSC 601 English Language & Literature Practicum*

- Understood how practice of language and literature teaching connects to critical thinking, social responsibility and community service.
- Demonstrate the ways practical experience of teaching English can test and reinforce theoretical knowledge.
- Applied disciplinary knowledge and skills necessary in teaching of English language and literature.
- Appreciated the importance of practice teaching as a means of developing English teaching skills.

CO 17: *EN AE 611- Creative Writing*

- Identify and use the elements needed to produce a piece of creative writing.
- Explore the process of creative writing through their own journey of creating pieces of fiction and poetry.

CO 18: ENCC 651- *British Literature 1945-2000*

- understand the relationship between literary texts and social structures,
- know key texts in English since the end of the Victorian and Modern century,
- know how to read texts closely and analyse.

CO 19: ENDC 653- *World Drama*

- Learned to closely read/watch and appreciate plays critically.

- Articulated a clear understanding of the relationship between literature and their context (historical/cultural) in which it was written.

CO 20: ENDC 654- *Project*

- Demonstrated the ability to conduct independent research.
- Analysed information using different research techniques.
- Compiled the research project, using a research manual.
- Appreciated the benefits of conducting research.
- Practised ethical research standards and procedures.

Click here to view Course Structure and Syllabus

3. MA History

Program Outcomes

PO 1: Sound Knowledge of different Historical Periods: Under the CBCS papers in each semester are devoted to the study of particular Historical phases in the historical events along with the study of a few major works by some master Historians of that period. These not only help the students to understand a historical period better, but also reduce the load of study in the concerned area.

PO 2: Knowledge of the Development of Historical perspective: While pursuing Honors course of studies in History it is mandatory that a student develops proper knowledge of the historical events. In this sphere, also the present syllabus appears to be illuminating, as it provides the students with standard and up to date knowledge of historical events, impact, war and history, result. The students may acquire knowledge of the historical events of Ancient, Medieval, Modern and European history in new aspects.

PO 3: Development of the Historical Perspectives: The current syllabus is well chosen to represent different events from different angles. They are not only meant to make the students familiar with the dominant events of different ages, but also to open out new perspectives, the student may acquire a knowledge of the changing nature of politics or kingdoms of the changing times

Program Specific Outcomes

PSO 1: Understand the background of our religion, customs institutions, administration and so on.

PSO 2: Understand the present existing social, political, religious and economic conditions of the people.

PSO 3: Analyzing the relationship between the past and the present is lively presented in history.

PSO 4: Develop practical skills helpful in the study and understanding of historical events.

They: (a) Draw historical maps, charts, diagrams etc.

(b) Prepare historical models, tools etc.

PSO 5: .Develop interests in the study of history and activities relating to history.

They: (a) Collect ancient arts, old coins and other historical materials;

(b) Participate in historical drama and historical occasions;

(c) Visit places of historical interests, archaeological sites, museums and archives;

(d) Read historical documents, maps, charts etc.

(e) Play active roles in activities of the historical organizations and associations; and

(f) Write articles on historical topics.

PSO 6: The study of history helps to impart moral education.

PSO 7: History installs the feeling of patriotism in the hearts of the pupils.

Course Outcomes

CO 1: *HIST 511 History: Its Theory & Method*

- Apply the theory of Historicism as a professional skill in various fields of intellect.
- Critically analyze the process of development of historiography since ancient times to modern times.
- Acquire basic skills of historical research.
- How to use the tool of theoretical application in their research.
- Critically analyze the process of development of historiography since ancient times to modern times.
- Acquire basic knowledge of history in various careers' i.e. museum, historical tourism, conservation and preservation.

CO 2: *HIST 513 Intellectual History of the 19th Century India*

- Students will understand the nature of Polity, society and culture in India prior and after the coming of the British Colonialism.
- It mainly emphasizes on the rule of the British East India Company rule in India and its impacts on the Indian Polity and Society.
- Students will be made to critically evaluate the political cultural circumstances during the nineteenth century India.
- Students will understand Sociology, Economics, and Religious Introduction during the 19^{th} century.

CO 3: *HIST 515 Human Rights*

- The course provides the student with the capacity to identify issues and problems relating to the realization of human rights, and strengthens the ability to contribute to the resolution of human rights issues and problems.
- It also develops investigative and analytical skills.

CO 4: *HIST 517 Indian Religions*

- After studying this course, Students will able to:
- discuss some of the ways in which the concept of 'religion' has been and is used in the study of religion
- understand some examples of religious activity in Britain and India on 'special days' and have some practical experience in the study of these examples
- Identify and evaluate critically the motives, concerns and methods that typically distinguish the academic study of religion known as religious studies from other approaches to religious belief and practice.

CO 5: *HIST 518 Economic History of India up to 1526*

- On Completion of this course, learners should be able to understand the nature, Structure & Potential of Medieval Indian Economy.

CO 6: *HIST 519 Social & Cultural History of Marathas*

- The main objective of this course is to acquaint the students with the knowledge of Maratha society in the realm of social and economic institutions and their interaction, which ultimately resulted into administration of that period.

CO 7: *HIST 520 History of Science & Technology in India*

- This course will impart authentic knowledge of India's scientific and technological traditions and will show through case studies how some of them are still relevant in today's world.
- It would also try to provide an understanding of the socio-cultural and philosophical context in which the various scientific and technological ideas got developed in India and thereby help in repositioning India's contributions in science and technology.

CO 8: *HIST 521 Intellectual History of the 20th Century India*

- It mainly emphasizes on the rule of the British East India Company rule in India and its impacts on the Indian Polity and Society.
- Students will be made to critically evaluate the political cultural circumstances during the nineteenth century India.
- Students will understand Sociology, Economics, and Religious Introduction during the 20^{th} century.

CO 9: *HIST 522 Social Background of Dalit Movement in Maharashtra*

- It defines and provides understanding of various concepts, further explains the caste system and evil practices like
- untouched ability and its rigidification in ancient and medieval times.
- It lays emphasis on the earlier forms of protest by Buddhism, Jainism and later by Bhakti movement, in the medieval period especially in Maharashtra, which lays the foundation for social awareness and renaissance of the per Ambedkarian period.

CO 10: *HIST 523 International Relations Since 1919*

- understand key concepts and concerns in international relations, including notably the way power is acquired and used globally and how states and non-state actors interact
- Demonstrate an appreciation for the practice of comparative political inquiry, and an understanding of institutions of American government or traditions of Western and non-Western political thought
- Become familiar with contemporary theories of international relations to use as lenses to differently explain outcomes and events in world affairs
- Become conversant in current international events through a close reading of the news and interpretation of events through international relations theories and concepts
- through international relations theories and concepts

CO 11: *HIST 524 Nationalism in African Countries*

After compilation of this course students will understand:

- Pre-Colonial empires Scramble for Africa
- African resistance and reaction to colonial rules
- Nature of Colonialism, Comparative political Institutions, Processes of change - social, economic and cultural
- Origins and evolution of African nationalism, Rise of mass parties
- Assessment of the colonial legacy

CO 12: *HIST 525 Indian Women in the 20th Century*

After compilation of this course, students will understand:

- Involvement of Women in social Reform movements,
- The Contribution of women in Freedom movement and politics

CO 13: *HIST 526 History of Modern China*

- This course intends to provide a detailed knowledge of modern Chinese history and to develop an international perspective while studying the regional history of Asia.

CO 14: *HIST 527 History of Environment & Ecology*

- The Environmental Studies major prepares students for careers as leaders in understanding and addressing complex environmental issues from a problem-oriented, interdisciplinary perspective. Students
- Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.

CO 15: *HIST-631 Economic History of Modern India*

- Students will be able to illustrate the rise and growth of Economic Nationalism in India.

CO 16: *HIST-632 History of Social Revolution in World*

- The main objective of this course is to acquaint the student with a broad overview of the fundamental changes that have taken place in the world in modern times.

CO 17: *HIST-633 India & the World*

- The study of History enriches the student to know, understand and delve into the past to meet the challenges of the present competitive world.
- A course in history provides a detailed study of Indian History as well as a survey of the History of the World in an analytical and comparative approach.

CO 18: *HIST-634 India & Her Neighbours Since 1947*

- Development Experiences Of India: A Comparison With Neighbors
- Comparative Development Experiences Of India And Its Neighbors
- Students will compare India's developmental experiences with two of its important and strategic neighbors such as Pakistan, China etc.

CO 19: *HIST-635 Socio Religious Reform Movements in India*

After compilation of this course students will understand

- Identify the social practices that existed in our society during the 19th century;
- Discuss the importance of socio-religious reform movements during the 19th and early 20th century in raising awareness about prevalent social practices;
- Explain the efforts of the reformers to deal with issues like caste system, child marriage, sati pratha, through legislation and other means;
- Discuss the role of reformers from the 19th century onwards in promoting school education in India;
- Analyse the impact of the reform movement on Indian society.

CO 20: *HIST-636 Political Structure in India*

- Analyzing what is Politics and explaining the approaches to the Study of Political Science – Normative, Behavioral, Post Behavioral, Feminist
- Critically analyzing the important institutions of the Indian Union: the Executive: President; Prime Minister, Council of Ministers; Governor, Chief Minister and Council of Ministers; The legislature: Rajya Sabha, Lok Sabha, Speaker, Committee System, State Legislature, The Judiciary: Supreme Court and the High Courts: composition and functions- Judicial Activism

CO 21: *HIST-637 Maharashtra in the 19th Century*

- To acquaint the student with structural and conceptual changes with dialectical relationship between continuity and change in Modern Maharashtra from an analytical perspective, to help them understand the ideas, institutions, forces and movements that contributed to the structural changes in Maharashtra

CO 22: *HIST-641 Contemporary India: Society & Economy*

- comprehend key themes and debates related to societies in contemporary India
- apply critical analysis of arguments and findings of research in relation to how theory and methods are applied
- have developed an understanding of interdisciplinary, social science approaches to contemporary economic issues pertaining to contemporary India

CO 23: *HIST-642 History of Europe 1789-1945*

- The main objective of this course is to acquaint the student with a broad overview of the fundamental changes that have taken place in Europe in modern times.

CO 24: *HIST-643 Dissertation*

- Apply the theory of Historicism as a professional skill in various fields of intellect.
- Critically analyze the process of development of historiography since ancient times to modern times.

- Acquire basic skills of historical research.
- How to use the tool of theoretical application in their research.
- Critically analyze the process of development of historiography since ancient times to modern times.
- Acquire basic knowledge of history in various carriers' i.e. museum, historical tourism, conservation and preservation.

CO 25: *HIST-644 Panchayat Raj*

- Is able to identify different levels of Panchayati Raj and its working.

CO 26: *HIST-645 History of Modern Japan from AD 1900- AD 2000*

Upon successful completion of the course, the student will be able to:

- Demonstrate understanding of the history of Japan and its relevance in regional and global context
- Draw comparative analysis in historical study
- Engage critically with literary and historical traditions of Japan
- Demonstrate skills to present thoughts and ideas coherently orally and in written form

CO 27: *HIST-646 Debates in Indian History*

- Students will understand the issues & Debates of Indian History issues which was debated by Historians

Click here to view Course Structure and Syllabus

4. MA Religious Studies

The Master of Arts in Religious Studies (M.A.) offers a two-year program of a total of 72 hours for students with a desire to prepare themselves for service as a Pastor, Bible teacher, an evangelist or a Bible worker or for those who would like to pursue further studies in Religion. We have five faculty in the department along with subject experts who constantly give their input to endeavour to prepare the young people to reach these goals.

Program Outcomes

PO 1: To develop a foundational knowledge of the major religions of the world.
PO 2: To inculcate a comprehensive understanding of beliefs, practices, and structures of the Hindu Religion.
PO 3: To effectively inculcate the culture of doing research to find out the major tenants of the religions of the world.
PO 4: To develop a more adaptive and contextualized approach to understand the people of various religious backgrounds.
PO 5: To do research on Christian and non-Christian religions under the guidance of the teacher.
PO 6: To exhibit Christian leadership skills for service in Adventist churches and institutions.
PO 7: To be qualified and ready for cross-cultural missionary work both locally and globally.
PO 8: To exhibit the skills to conduct church activities.
PO 9: To grow into an effective leader with the passion to initiate, nurture, and disciple.
PO 10: To be a responsible and active participant in the welfare of the community.
PO 11: To be an efficient evangelist, pastor, or seminary professor with the ability to teach and preach.
PO 12: To be able to effectively articulate ones' faith both in oral and written form.
PO 13: To acquire the skills to conduct various research work for the benefit of the church.
PO 14: To be qualified to pursue higher studies in any Adventist institution of higher learning.
PO 15: To have developed in them excellence in knowledge, faith, service and well-being
PO 16: To have inculcated in them a spirit of mission
PO 17: To have a strong foundation for research and innovation
PO 18: To have developed a holistic life which includes the physical, mental, social and spiritual life of the students.
PO 19: To have developed a thorough knowledge of the Scriptures and to foster a deep desire to be a good citizen.
PO 20: To be well-grounded in the fundamental beliefs of the Seventh-day Adventist Church.

Program Specific Outcomes

PSO 1: To develop an interest to study the primitive and animistic religions found among the people of the world today.
PSO 2: To develop tolerance in the faiths of other religions of India and the world.
PSO 3: To be able to comprehensively understand the fundamental teachings of the living religions of the world.
PSO 4: To understand the relevance of religion in the life of the individual and community.
PSO 5: To develop an interest to do directed independent study in an approved area in World Religions.
PSO 6: To Create an atmosphere to dialogue with people of other religions

PSO 7: To bring about a deep and personal conviction of God's call to the mission of the church.
PSO 8: To bring about a Christ-like spiritual maturity for fruitful personal life and church mission.
PSO 9: To Develop sound principles of biblical interpretation that is faithful to the Bible.
PSO 10: To produce a well-grounded in the fundamental beliefs of the Seventh-day Adventist Church.
PSO 11: To produce an efficient Bible teacher, evangelist, or pastor with the ability to teach and preach.
PSO 12: To create a spiritually mature person to be able to live and inspire a life of faith**.**
PSO 13: To create a biblical and theological foundations to enable them to integrate personal faith and theological learning in their life and ministry context.
PSO 14: To develop a life, which exemplifies a Christ-like attitude in their personal life and ministry context.
PSO 15: To develop the ability to demonstrate a high level of understanding of the subject and its implementation.
PSO 16: To create a high level of expertise in the area of church leadership and administration and general functioning of the church
PSO 17: To bring about sound principles of biblical interpretation.
PSO 18: To develop Christian leadership skills for service in Adventist churches and institutions
PSO 19: To become an effective worker with the passion to initiate, nurture, and disciple.
PSO 20: To learn the art of meditation from the Hindu Religion and adapt the same to the Christian Religion.

Course Outcomes
At the end of each course the student will be able to:
CO 1: *CHIS 631 Life and Works of Ellen G White*
- understand the role of the gift of prophecy in Biblical times and modern times.
- trace the origin and development of the SDA church and understand its prophetic mission
- acknowledge the continuation of the gift of prophecy in modern times in the life and ministry of Ellen G White
- recognize the value of the prophetic ministry of E G White in the development of the Adventist church

CO 2: *CHMN 511 Church Leadership and Administration*
- see students as emerging leaders by practicing leadership principles.
- know how to select emerging leaders.
- see the nurturing process of emerging leaders.
- comprehend Paul's strategy of mission
- look at various training models see the importance of delegation of responsibilities.

C0 3: *CHMN 640 Church Growth and Equipping the Pastor*
- State the Church growth principles
- Evaluate one's own Church conditions
- Formulate the purpose statement for the Church
- Develop specific strategies for the Church growth

CO 4: *MSSN 640 Cross Cultural Communication*
- have a broad understanding of communicating cross culturally
- learn the main principles of cross-cultural communication

- learn and apply the principles in practical ministry

CO 5: *GSEM 511Research Methodology*

- review basic research methodologies and skills.
- conduct a survey of reference works for religious studies.
- review academic conventions and expectation for projects/theses.
- Assist to formulate a clear idea of the kinds of research for a Master of Arts degree.
- facilitate the development of tentative project proposal in harmony with the student's Professional interests, needs in the field and ministerial functions.

CO 6: *MSSN 511Mission to the World*

- develop strategies for mission
- see specific examples of mission methods in the Old Testament and the New Testament
- look at Jesus method of mission in the New Testament
- comprehend Paul's strategy of mission
- look at Catholic and Protestant missions with emphasis on the contribution made by great missionaries

CO 7: *MSSN 513 Christian Service to the Community*

- have an awareness regarding our responsibility to the community around us.
- be sensitive to the needy people in our society.
- Have an active role to play an important part to mitigate the suffering of the people.

CO 8: *MSSN 520 Contemporary Issues in Mission*

- Have an awareness regarding the current spiritual issues and to find Biblical solutions

CO 9: *MSSN 522 Urban Missions*

- develop strategies for missions in an urban context.
- see why Urban Ministry is very relevant for the 21st century.
- understand the controversy that rages between good and evil in the city in the backdrop of the great controversy and why missions become significant in such a context.
- comprehend the biblical basis for Urban missions and build a strategy based on the biblical foundations.
- build a theology of missions for the city.

CO 10: *MSSN 524 History & Theology of Cristian Missions*

- foster thought and reflection on the task of mission in the light of Biblical revelation and Adventist theology.
- encourage examination of their experience and the often-unspoken assumptions about religious life, beliefs and mission.
- apply new insights to their own life, specific country, and place of ministry

CO 11: *MSSN 633 Anthropology for Mission and Ministry*

- understand the gospel and human cultures.
- trace relationship between gospel and culture.
- identify the cultural differences and the New Missionary
- identify the cultural assumptions of western missionaries
- evaluate cultural differences and the missionary

CO 12: *NTST 631Readings in Revelation*

- review the basic definitions, characteristics and purposes of apocalyptic literature.
- get a basic overview of the content, imagery and style of the NT book of Revelation.
- think about the original purpose and overall message of this piece of ancient literature.

- get a response of the quality of reading the book of Revelation and Understanding the Apocalypse.

CO 13: *OTST 520 Readings in Daniel*

- have a broad understanding of the book of Daniel as given in its 12 chapters.
- appreciate the Bible as one sees the fulfilment of various prophecies given in the book.

CO 14: *THST 511 Doctrine of Salvation*

- learn the significance of Salvation to the human race in the light of the Bible
- understand the Biblical concept of salvation which is freely available in Christ to every believer.
- understand the concept of salvation to share it with others

CO 15: *THST 513 Doctrine of Revelation and Inspiration*

- do major discussions connected with the doctrine of revelation and inspiration.
- develop a framework for further study in this theological area.
- think biblically, reflectively and in an integrative way about the doctrine of God and its overarching implications on other doctrines.
- Apply this study to the personal life of faith as well as to the life of the church.

CO 16: *THST 515 Doctrine of the Holy Spirit*

- provide an intensive treatment of a major Christian doctrine, namely, the person and work of Holy Spirit (Pneumatology).
- draw primarily from Scripture, along with insights from the Christian tradition and Christian experience, in constructing a doctrine of the Holy Spirit for Christian life and ministry in the church and the world today.
- become acquainted with historical developments, and reflected upon contemporary issues related to the doctrine of the Holy Spirit.

CO 17: *THST 520 Doctrine of the Sanctuary*

- grasp the biblical teaching on sanctuary
- understand the historical–theological development of the Adventist view on Sanctuary Doctrine.
- understand and answer the contemporary issues on sanctuary doctrine.
- have a better relationship with God.

CO 18: *THST 522 The Doctrine of Creation*

- Be acquainted with major discussions connected with the Doctrine of Creation.
- develop a framework for further study in this theological area.
- think biblically, reflectively and in an integrative way about the doctrine of the Sabbath and its overarching implications on other doctrines.
- Apply this study to the personal life of faith as well as to the life of the church.

CO 19: *THST 524 Christian Ethics*

- Have a competent knowledge of the concept of ethics, Christian ethics in particular.
- decide the morality of ethical issues based on the biblical sources.
- Recognize the distinct Adventist concept of morality from other Christian concepts.
- Integrate one biblical concept of ethical issues with his or her personal living.
- Be competent enough to educate and guide people faced with such ethical issues.

CO 20: *THST 631Doctrine of the Sabbath*

- Be acquainted with major discussions connected with the doctrine of the Sabbath.
- develop a framework for further study in this theological area.
- think biblically, reflectively and in an integrative way about the doctrine of the Sabbath and its overarching implications on other doctrines.

- Apply this study to the personal life of faith as well as to the life of the church.

CO 21: *THST 633 Doctrine of God*

- become acquainted with the orthodox doctrines of the Triune, personal, Living and Creating God, the God of the whole earth, of every people, tongue, and nation.
- know the necessity of seeking the Creator only in Jesus Christ, God's Son.
- know the key Biblical passages that teach these doctrines.
- know the development of the Church's understanding of these doctrines in the various expressions in the Creeds.
- be familiar with the key parts of the Westminster Confession of Faith, the Westminster Shorter and Larger Catechisms.
- know the implications in thought and ethics of diverging from the orthodox doctrine.

CO 22: *THST 635 Introduction to Contemporary Theology*

- demonstrate an understanding of the major trends reflected in late twentieth and early twenty-first century theological discourse.
- examine the theological and ethical methods employed by the various theological perspectives considered.
- explore the interactions of race, gender, class, sexuality, and ethnicity at work in theological interpretation.
- analyse the relationship between the Church and contemporary theology, considering the applicability of theological discourse in public life and the Church's social witness in the world.

CO 23: *THST 640 Doctrine of Christ*

- be acquainted with major discussions connected with Christology.
- develop a framework for further study in the area of Christology.
- think biblically, reflectively and in an integrative way about the doctrine of Christ and its soteriological implications.
- apply this study to the personal life of faith as well as to the life of the church.

CO 24: *THST 642 Doctrine of the Church*

- Develop an overall doctrine of the church by considering crucial biblical, theological, historical, denominational, practical, and contemporary cultural issues that influence ecclesiology.
- have convictions regarding the nature, purpose, ministries, marks, purity, unity, offices, government, and ordinances of the church.
- Have a critique of several contemporary developments in ecclesiology

CO 25: *THST 644 Studies in Eschatology*

- Demonstrate understanding of various eschatological issues and debates.
- Design a research strategy to critique, interpret, and judge a critical issue in biblical eschatology.
- Construct an original and persuasive research paper to resolve a theological question concerning eschatology.
- Interact with the importance of eschatology for theology, preaching, and hermeneutics.
- Describe the relevance of biblical eschatology with a Christian worldview to practical ministry.

Click here to view Course Structure and Syllabus

II. DIVISION OF BUSINESS ADMINISTRATION & COMMERCE

Under Graduate (Duration for UG programs: 3 Years)

1. BBA (Regular)

Program Outcomes

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

PO 1: Understanding of Business Functions
PO 2: Providing Global Perspectives
PO 3: Developing Critical and Analytical Thinking Abilities
PO 4: Interpersonal Skill Development
PO 5: Creating Social Sensitivity and Understanding
PO 6: Business Practices Demonstrate sensitivity to social, ethical and sustainability issues
PO 7: Developing Entrepreneurship Acumen
PO 8: Enables students to apply knowledge of management theories and practices to solve business problems.
PO 9: Equips students to demonstrate the capabilities required to apply cross-functional business knowledge and technologies in solving real-world business problems.

Program Specific Outcomes

PSO 1: Acquiring Conceptual Clarity of Various Functional Areas
PSO 2: Ability to analyze various functional issues affecting the organization
PSO 3: Demonstrating ability to evolve strategies for organizational benefits
PSO 4: Analysis and interpretation of the data, which is used in Decision Making
PSO 5: Demonstrate the ability to develop models / frameworks to reflect critically on specific business contexts
PSO 6: Demonstrate Effectively Oral and Written Communication
PSO 7: Demonstrate Ability to work in Groups
PSO 8: Demonstrate understanding of social cues and contexts in social interaction
PSO 9: Develop Ethical Practices and Imbibe Values for Better Corporate Governance.
PSO 10: Understand ethical challenges and choices in a business setting
PSO 11: Demonstrate understanding of sustainability related concerns in varied areas
PSO 12: Analyze Global Environment and its Impact on Business
PSO 13: Understand the ecosystem of start up in the country
PSO 14: Demonstrate the ability to create business plans
PSO 15: Providing an opportunity for the students to gain practical exposure towards the workplace and make them industry ready.

Course Outcomes

CO 1: *BBA112 Environmental Studies*

- To develop knowledge base for demographic and environmental factors affecting Business.
- To make the students aware of environmental problems related to Business and Commerce.
- To inculcate values of Environmental ethics amongst the students.

CO 2: *BBA113 Business Accounting*

- To impart basic accounting knowledge,

- To familiarize students with the mechanics of preparation of financial statements,
- understanding corporate financial statements, their analysis and interpretation.

CO 3: *BBA114 Principles of Management & Organisational Behaviour*

- The general objective of this course is to provide a broad and integrative introduction to the theories and practice of management.
- In particular, the course focuses on the basic areas of the management process and functions from an organizational viewpoint.
- The course also attempts to enable students to understand the role, challenges, and opportunities of management in contributing to the successful operations and performance of organizations.

CO 4: *BBA115 Compulsory English*

- To write in an effective manner that demonstrates an understanding of the basic concepts of grammar.
- Effectively express and exchange ideas through various modes of communication.

CO 5: *BBA122 Language: English*

- This course enables the learners to develop their skills in critical reading as well as to appreciate and comprehend the literary text, to discuss the written question answer.
- It enhances students' need and language in vocabulary and grammar.

CO 6: *BBA123 Managerial Economics*

- The Purpose of this course is to apply micro economic concepts and tools for analyzing
- business problems and making accurate decisions pertaining to the business firms.
- The emphasis is given to tools and techniques of economics

CO 7: *BBA124 Statistics for Business Decisions*

- To understand the concept of population and sample.
- To use frequency distribution to make decision.
- To understand and to calculate various types of averages and Variation.

CO 8: *BBA125 Financial Institutions and Markets*

- To acquaint the students with Financial Markets and its various segments.
- To give the students an understanding of the operations and developments in financial markets In India.

CO 9: *BBA131 Human Resource Management*

- Importance of human resource management as a field of study and as a central management function.
- Know the elements of the HR function (e.g. recruitment, selection, training and development, etc.) and be familiar with each element's key concepts & terminology

CO 10: *BBA132 Marketing Management*

- To help you develop analytical skills, apply decision tools, and learn frameworks that will discipline your approach to market analysis.
- Improve your skills in group problem-solving and in written communication

CO 11: *BBA133 Management Accounting*

- To impart to the students knowledge about the use of financial, cost and other data for the purpose of managerial planning, control and decision making.

CO 12: *BBA134 Information Technology for Business*

- The Aim of this course is to make the students aware about Information Technology in Business and how data is used in management and the security and encryption.

CO 13: *BBA141 Macroeconomics*

- This course is designed to reinforce and expand students' understanding of the basic macro-economic theory.
- It aims to provide students with an introductory-level treatment of economic theory with emphasis on the technique beside the results.
- Besides, it helps the students to master the basic macroeconomic tools used by the prominent economists in practice and makes them able to apply these tools in a variety of contexts to set up and solve macroeconomic problems.

CO 14: *BBA142 Financial Management*

- To acquaint students with the techniques of financial management and their applications for business decision-making.

CO 15: *BBA143 Quantitative Techniques for Management*

- The objective of this course is to help students develop an intermediate level of understanding for quantitative tools and use it to make managerial decisions.

CO 16: *BBA144 E Commerce or Statistical Software / Summer Internship*

- Analyze the impact of E-commerce on business models and strategy.
- Describe the major types of E-commerce. Explains the process that should be followed in building an E-commerce presence.
- Identify the key security threats in the E-commerce environment.

CO 17: *MKTG151 Consumer Behaviour*

- Understanding how and why consumers behave in a given way enables marketers to design and implement better marketing strategies.
- Consumer Behaviour focuses upon understanding consumer decision-making processes and the various factors that influence these processes.

CO 18: *FNCE151 Strategic Corporate Finance*

- To enable the students to acquire the knowledge of corporate accounting and to learn the various techniques and methods of preparing the financial statements.

CO 19: *MKTG152 Advertising and Brand Management*

- Develop a consumer-centric approach to building, measuring and evaluating strategies that build brand equity for new and existing brands.
- Identify important issues related to planning and implementing brand strategies for a diverse group of marketing offerings (e.g., products, services, industrial goods, non-profits, etc.).
- Learn how to identify brand meaning and to measure brand strength for any particular market offering.
- Apply branding principles and marketing communication concepts and frameworks to achieve brand management goals and improve marketing performance.

CO 20: *FNCE152 Investment Analysis and Portfolio Management*

- The primary objective of the course is to study the theory and empirical evidence relevant for investing, particularly in the context of portfolio management.
- The major topics will include: security markets and the investment industry, optimal portfolio selection and the relation between risk and return market efficiency.

CO 21: *BBA153 Entrepreneurship Development*

- The aim of this course is to make students aware of the concept, need and relevance of entrepreneurship in the contemporary Indian society and further create a desire among the students towards entrepreneurial orientation and see it as an alternative career option.

CO 22: *BBA154 Business Ethics*

- The objective of this paper is to make the students aware about the importance of ethics in the business, practices of good governance to encourage moral imagination and heightening sensitivity towards the ethical dimension of managerial problems.

CO 23: *MKTG161 Marketing of Services*

- At the completion of this unit students should be able to:
- Examine the nature of services, and distinguish between products and services
- Identify the major elements needed to improve the marketing of services
- Develop an understanding of the roles of relationship marketing and customer service in adding value to the customer's perception of a service

CO 24: *FNCE161 Investment Banking and Financial Services*

- Students get familiarized with recent trends in financial services and its operations.
- To give the students a conceptual framework of financial markets and its Regulatory Authority - SEBI.

CO 25: *MKTG162 Global Marketing*

- Able to understand and describe the concepts and processes of international marketing.
- Having the abilities to analyze the international marketing environment and choose the suitable international markets for their organization.
- Able to differentiate the direct and indirect exporting and other forms of international marketing.

CO 26: *FNCE162 International Financial Management*

- To provide insight to students about FOREX Market. International financial markets and their needs and functions.
- To enable students understand FDI flows and risks associated with foreign exchange.

CO 27: *BBA163 Business Communication*

- Students will be able to communicate:
- their ideas through different modes and mediums.
- be able to make memorable presentations professionally.
- Students will understand different strategies to adopt while communicating with different personalities with different goals.

CO 28: *BBA164 Production and Operations Management*

- Familiarizes students with the process of production to be carried out in a business so that there is which satisfies customers and which helps to increase the goodwill of the organization.
- Assists in analysis with the selection of the plant location, layout, selection of process, controlling production process and producing quality products.

Click here to view Course Structure and Syllabus

2. **B Com Commerce**

Program Outcomes

PO 1: The students will acquire knowledge in functional areas such as finance, accounting, marketing, banking, corporate and business law, and be equipped for employment, to fulfill their
roles in organizations through the application of acquired knowledge.
PO 2: Students will develop a sound foundation for advanced studies in Commerce should they choose to pursue professional courses such as MCOM, MBA, CA, CMA, ICWA, CS etc.
PO 3: The thought process and structure of the students will be conditioned towards identifying business opportunities, solving problems, making sound decisions based on statistically analyzed data, critical thinking, and taking up leadership roles.
PO 4: They will evolve into individuals who consciously as well as subconsciously look at the world through the eyes of entrepreneurs, managers, and leaders.

Program Specific Outcomes

PSO 1: *Content Orientation:* Apply key theories, models and applications within the global commercial context.
PSO 2: *Analytic and Critical Thinking Orientation:* Demonstrate critical thinking skills in commercial related situations.
PSO 3: *Quantitative Reasoning Orientation:* Employ empirical approaches to planning and decision-making using quantitative reporting mechanisms.
PSO 4: *Communication Orientation:* Demonstrate written and oral skills appropriate for business communication.
PSO 5: *Ethics and Legal Orientation:* Analyze business and organizational situations using ethical approaches to decision making.
PSO 6: Technology Orientation: Apply technology to enable growth, development and sustainability.

Course Outcomes

CO 1: *BCOM111 Moral Principles*
CO 2: *BCOM112 Environmental Studies*
To develop knowledge base for demographic and environmental factors affecting Business.
To make the students aware of environmental problems related to Business and Commerce.
To inculcate values of Environmental ethics amongst the students.
CO 3: *BCOM113 Financial Accounting*
The objective of this paper is to help students to acquire conceptual knowledge of the financial accounting and to impart skills for recording various kinds of business transactions.
CO 4: *BCOM114 Business Organisation and Management*
The course aims to provide basic knowledge to the students about the organization and management of a business enterprise.
CO 5: *BCOM115 Compulsory English*
Students will learn to speak and write English with the least possible grammatical error.
Students will be equipped to make their English more presentable, persuasive and attractive.
Students will improve their comprehension skills. Students will be able to use the above outcomes in their business setting.
CO 6*: BCOM121 Health and Wellness*

CO 7: *BCOM122 Language: English*
This course enables the learners to develop their skills in critical reading as well as to appreciate and comprehend the literary text, to discuss the written question answer. It enhances students' need and language in vocabulary and grammar.
CO 8: *BCOM123 Business Law*
The objective of the course is to impart basic knowledge of the important business legislation along with relevant case law.
CO 9: *BCOM124 Business Mathematics and Statistics*
The objective of this course is to familiarize students with the applications of mathematics and statistical techniques in business decision-making.
CO 10: *BCOM125 Management Principles and Applications*
The objective of the course is to provide the student with an understanding of basic management concepts, principles and practices.
CO 11: *BCOM131 Company Law*
The objective of the course is to impart basic knowledge of the provisions of the Companies Act 2013 to understand the conduct of business as per legal framework provided in the country. Case studies involving issues in company law are required to be discussed.
CO 12: *BCOM132 Income Tax Law and Practice*
To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961 and the relevant Rules.
CO 13: *BCOM133 Corporate Accounting*
To enable the students to acquire the basic knowledge of corporate accounting and to learn the techniques of preparing the financial statements.
CO 14: *BCOM134 Computer Applications in Business*
The aim of Computer Application is to provide students with an opportunity to develop understanding of the basic operations of a computer system and computer applications software. Meanwhile, they also develop the skill of using computer applications software for solving problems.
CO 15: *BCOM141 Business Communication*
This course is designed to give students a comprehensive view of communication, its scope and importance in business, and the role of communication in establishing a favorable outside the firm environment, as well as an effective internal communications program.
CO 16: *BCOM142 Corporate Law*
To impart basic knowledge of the provisions of the Companies Act 2013 and the Depositories Act, 1996. Case studies involving issues in corporate laws are required to be discussed.
CO 17: *BCOM143 Cost Accounting*
The aim of the course is to equip students with skills and knowledge to: Identify and calculate different types of costs (direct, indirect, variable, and fixed costs).
CO 18: *BCOM144 E Commerce*
To help students understand the interplay of business with technology with the internet at its core. To understand various situations and how to deal with them with a fundamentally same but methodically different approach as compared to traditional commerce.
CO 19: *BANK151 Indian Banking System*
The aim of this course is to make students aware of the concept, need and relevance of entrepreneurship in the contemporary Indian society and further create a desire among the students towards entrepreneurial orientation and see it as an alternative career option.
CO 20: *COST151 Cost Variance*
The objective of this course is to help students have a basic understanding economics in terms of the theories and types of markets but focused on the micro-environment.
CO 21: *BANK152 Risk Management*

To impart knowledge about the basic principles of banking and insurance.

CO 22: *COST152 Strategic cost analysis*

The objective of this course is to provide an in depth understanding of the various aspects of risks and develop a way of looking at risk as potential opportunity. It also aims to teach the students various techniques to deal with risk and minimize it wherever possible.

CO 23: *BCOM153 Entrepreneurship*

The objective of this course is to dive deeper into the variance aspect of cost accounting and make critical decisions based on scientific calculations.

CO 24: *BCOM154 Principles of Micro Economics*

The objective of this course is to help students develop the ability to analyze each type of cost and the reasons for the rise of such costs along with being able to bring out solutions to optimize them.

Click here to view Course Structure and Syllabus

Post Graduate

1. M B A Master of Business Administration

(Duration: 2 Years)

Program Outcomes

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

PO 1: Demonstrates the knowledge of management science to solve complex corporate problems using limited resources.
PO 2: research literature, identify, and analyze management research problems.
PO 3: Identify business opportunities, design and implement innovations in workspace.
PO 4: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to management practice.
PO 5: Apply ethical principles for making judicious managerial decisions.
PO 6: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 7: Communicate effectively with various stakeholders
PO 8: Engage in independent and life-long learning

Program Specific Outcomes

The MBA Program seeks to develop students into leaders ready to tackle the challenges of today's global business environment. This is accomplished through the following learning goals and objectives:

PSO 1: *Integrative Experience and Experiential Learning*: Analyze and synthesize information across disciplines/functions in order to evaluate business opportunities and make sound business decisions
PSO 2: *Social, Legal, and Ethical Responsibilities of Organizations and Society*: Analyze the impact of an enterprise on its various stakeholders
PSO 3: *Effect of Global Environment on Business:* Demonstrate comprehension of cultural commonalities and differences in international business activities and develop effective management techniques for cross-cultural business
PSO 4: *Strategic and Innovative Thinking and Analysis Skills to Enable Effective Opportunity Identification, Problem-solving, and Decision-making:* Demonstrate and apply appropriate management and statistical tools to analyze business conditions and evaluate business environment and devise strategies for responding effectively to problems, threats, and opportunities
PSO 5: Effective Oral, Written, and Presentation Communication skills: Construct and communicate logical, relevant, and professional quantitative assessment of business information in an effective manner
PSO 6: Team Participation and Leadership: Summarize and apply theories of effective leadership, team composition, process, and motivation to effectively manage work teams.

Course Outcomes

CO 1: *MBA 510 Managerial Economics*

To introduce the economic concepts. To familiarize with the students the importance of economic approaches in managerial decision-making. To understand the applications of economic theories in business decisions

CO 2: *MBA 512 Management Communication*

This course will help Students become a successful communicator and create goodwill for both the individual as well as the organisation. It will also help them to make writing simple. Identify the audience and best adapt messages to them with writing informative, communicating with international organisations as well as working and writing in groups. Making successful oral presentations.

CO 3: *MBA 514 Employee Relations*

This course will help students to be aware of the various factors that affect employee-management relationship as well as employee- employee relationship and how one can effectively manage these factors so as to provide an employee friendly work environment improving the employee- management relationship which will lead to business growth.

CO 4: *MBA 515 Group Dynamics at Work*

Students will be able to understand how diversity impacts teamwork and be familiarised with the intricacies of group dynamics - they will also be able to perceive behaviours that could hinder or promote good team or group performance.

CO 5: *MBA 516 Financial Reporting Statements and Analysis*

The Students will be able to understand the implication of accounting standards And to analyse and interpret financial statements concept of fund flow and cash flow. Students will be able to determine and assess working capital Management as well as understand components of working capital Management, inventory management, stock level, etc. to generate various reports.

CO 6: *MBA 517 Marketing Management*

The Students will be able to use the key elements in marketing and its benefits towards developing strategy and planning a marketing program. And also enhance problem-solving abilities in operational areas of marketing by providing ith a set of analytical tools.

CO 7: *MBA 518 Operations Management*

The Students will be able to improve and understand the concepts, principles, problems, and practices of operations management.

CO 8: *MBA 519 Human Resource Management*

The Students will be able to understand the HR Management and system at various levels in general and in certain specific industries or organizations. And focus on and analyse the issues and strategies required to select to develop manpower resources. To enable the students to integrate the understanding of various HR concepts along with the domain concept in order to take correct business decisions.

CO 9: *MBA 520 Legal and Business Environment*

The Students will be able to understand the legal environment under which a business operates. It will enable them with knowledge on basic legal concepts and principles necessary in decision-making.

CO 10: *MBA 522 Indian Economy and Policy*

The Students will be able to understand the theoretical and practical development in the Indian macro-economic environment. They will be able to understand the effects of macroeconomics in business decision making.

CO 11: *MBA 524 Strategic Human Resource Management*

The Students will be able to impart knowledge related to the strategic issues surrounding people at the work front and to expose them towards multidimensional competitive forces affecting HR decisions.

CO 12: *MBA 525 Cross Cultural Management*

The Students will be able to understand the importance of appreciating culture while doing business internationally. It will help students develop empathy and cross cultural intelligence enabling them to be effective global leaders.

CO 13: *MBA 526 Indian Financial System and Financial Markets*

The Students will be able to help students to understand the various institutions and units that comprise the Indian Financial System and Market. Students will also understand the challenges of the past and reforms to guide the future of the financial system in India.

CO 14: *MBA 527 Computer Applications for Business*

The Students will be able to understand the use of word processing, spreadsheets in decision-making, making optimum use of presentation tools, and data management.

CO 15: *MBA 528 Project Management*

The Students will be able to understand the concepts of project management in planning and executing a project using scientific principles and tools in achieving optimum results.

CO 16: *MBA 529 Organizational Behaviour*

The Students will be able to focus on understanding human behaviour in workplaces. And to appreciate the complexities of individual and group behaviour, motivation and leadership, culture and conflicts.

CO 17: *MBA 631 Supply Chain Management*

The students will be able to understand the primary differences between logistics and supply chain management and the processes of supply chain management and their interrelationships within individual companies and across the supply chain and use, the tools and techniques useful in implementing supply chain management

CO 18: *MBA 633 Corporate Strategy*

The course is designed to cover fundamental issues with regard to corporate and business strategy, and the implementation and process aspects of strategic management.

CO 19: *MBA 634 Corporate Social Responsibility*

Students will be able to understand the importance and usefulness of corporate social responsibility and how it leads to overall development of the society.

CO 20: *MBA 635 Business Statistics and Analytics for Decision Making*

Students will be able to help the students understand the concepts of statistics, and its relevance in the management decision making process.

CO 21: *HRMT 636 Manpower Planning*

The students will be able to forecast staffing level needs and work with company managers to make sure each department is properly staffed. The human resources group plans for seasonal rises in employment needs to ensure that production levels and customer service quality are not affected. A basic knowledge of current trends, practices, issues and changes in Human Resource Planning and Development.

CO 22: *HRMT 637 Human Resource Metrics and Analytics*

The students will be able to understand the various qualitative and quantitative metrics of human resource activities analyse and interpret data for better human resource management decisions.

CO 23: *HRMT 638 Compensation and Benefits Management*

The Students will be able to learn basic compensation concepts and the context of compensation practice and different ways to strengthen the pay-for-performance link and learn some of the implications for strategic compensation.

CO 24: *MKTG 636 Consumer Behaviour*

The Student will be able to apply the key terms, definitions, and concepts used in the study of consumer behaviour and demonstrate how as a marketer you can use your knowledge of consumer behaviour concepts to develop better marketing programs and strategies to influence those behaviours.

CO 25: *MKTG 637 Digital Marketing*

The Students will be able to use the key marketing and business models that will help to shape digital marketing strategy

review the history of digital marketing to give some perspective to your digital strategic plan and describe online market presence, segmentation and the 4 Ps of marketing and their implications for digital marketing

CO 26: *MKTG 638 Customer Relationship Management*

The Students will understand the basic concepts of Customer relationship management marketing aspects of Customer relationship management. Learning the basics of analytical Customer relationship management. and understand the basics of operational Customer relationship management.

CO 27: *FNCE 636 Corporate Finance*

The Students will be able to learn the importance and applications of Corporate Finance with respect to business organizations.

CO 28: *FNCE 637 Investment Analysis*

The students will be able to understand the conceptual framework for analysis from an investor's perspective of maximizing return on investment with a sound theoretical base with examples and references related to the Indian financial system.

CO 29: *FNCE 638 Taxation*

To help students understand the basic terminologies related to direct and indirect taxes in India. Students will also learn to calculate and compute tax liabilities for an individual and firm.

CO 30: *MBA 641 Operations Research Applications*

The Students will be able to understand how to use operations strategy as a guidance for the organization's operational activities and business strategy improvement.

List a number of conceptual tools for analyzing operations' strategy and enhancing the operations performance.

Apply tools and models in the analysis of operations strategies and processes.

Recognize the impact of operations on sustainability, and how operations can contribute to a sustainable society

CO 31: *MBA 643 Managerial Skills for Effectiveness*

The objective of this course is to enable the student to identify the knowledge and skills needed for effective management of individual and team performance and examine the design of performance management systems that aim to transform organisational objectives into performance outcomes.

CO 32: *MBA 644 Entrepreneurship*

To help students to understand the process of entrepreneurial development and also give an insight into the various potential options available for an entrepreneur on establishing a start-up. Students will also learn to create a business plan that captures a variety of entrepreneurial motivations, entrepreneur culture and sectoral opportunities and financing options.

CO 33: *HRMT 646 Performance Management Systems*

This course will enable the students to understand the superior standards of work performance and to help in identifying the knowledge and skills required for a job efficiently as this would drive their focus towards the right task and boost the understanding of

performance of the employees by encouraging employee empowerment, motivation and implementation of an effective reward mechanism.

CO 34: *HRMT 647 International HRM*

To help students understand international laws regarding employment, appreciate inter-cultural differences and apply best practices in human resource functions.

CO 35: *HRMT 648 Management of Human Capital*

This course will provide students the future manager with inputs with a view to enhancing the appreciation of the Human Resources function as a potential career option, Understanding the interface of the Human Resources function with Operations, Marketing, and Finance functions

CO 36: *FNCE 646 Risk Management*

This course will help students be prepared to function in a business environment, developing an awareness of the challenges, the tools, and the process of designing and implementing a Risk Management program.

CO 37: *FNCE 647 Corporate Valuation*

This course will help students to be able to understand the importance and application of corporate valuation; how earnings are measured and how to evaluate the firm and to estimate the value of shares.

CO 38: *FNCE 648 Mergers, Acquisition & Corporate Restructuring*

This course will help students to understand Mergers, Acquisitions, and Corporate Restructuring Activities, waves, and their theoretical perspectives. Mergers, Acquisitions, and Divestitures strategies - Motives, implications, and alternative perspectives. Target (foreign target) and divesting firm valuation. Valuation of synergies. Structuring corporate reforms and negotiations - Paying for the target firm & the investment banker perspectives. Value creation from M&A's and Divestitures - Methods and evidence.

Click here to view Course Structure and Syllabus

III. DIVISION OF EDUCATION

Under Graduate

1. B Ed Bachelor of Education
(Duration: 2 Years)

Program Outcomes

PO 1: *Professional Capacity Building:* Demonstrate professional/technical knowledge of the physical, social and intellectual development and characteristics of students and how these may affect learning. Undertaking research as to how students learn and the implications for teaching. Identifying teaching strategies that are responsive to the learning strengths and applying the knowledge of Philosophy, Sociology, Psychology Management, and ICT to set the context of teaching profession and advances the capacities in teaching, research and extension.

PO 2: *Academic Integrity and Professional Ethics:* Demonstrate professional values such as commitment to the profession that guide the in seeking out new challenges/assignments to improve student learning. Honouring diversity and ensuring inclusion by treating all students and colleagues with respect and dignity showing respect for and sensitivity to gender, cultural and religious difference; and challenging prejudice, biases and intolerance in the workplace etc.

PO 3: *Resilience and cope up with Complex issues***:** Demonstrate spirit of work in diversified situations and apply knowledge & skills to cope up educational issues in complex situations with appropriate consideration for the rules, norms and the Social, cultural, and environmental context.

PO 4: *Academic Administration and Management Capacities:* Demonstrate professional competencies/practice that are required to manage classroom activities by establishing and maintaining orderly and workable routines to create an environment where student time is spent on learning tasks. Manage challenging behaviour by establishing and negotiating clear expectations with students and address discipline issues promptly, fairly and respectfully. Ensure students' well-being and safety within school by implementing school and/or system, curriculum and legislative requirements; and incorporate strategies to promote the safe, responsible and ethical use of ICT in learning and teaching.

PO 5: *Commitment towards Society and National Goals:* Recognize areas of commitment, accountability, constitutional values, and national goals and perform accordingly.

PO 6: *Sensitivity for Emerging Issues:* Apply the knowledge & skills to deal with Issues related to population, environment, gender equality, different literacy, Yoga & Health Education etc. and respond to emerging issues by applying critical, constructive and creative thought process.

PO 7: *Research and Knowledge Creation:* Demonstrate knowledge required to design learning sequences and lesson plans; implement teaching strategies using ICT to improve teaching-learning process; set explicit, challenging and achievable learning goals for all students; and plan and implement well-structured learning and teaching programmes that engage students and promote learning. Involve in knowledge dissemination, knowledge creation, research and innovative educational practices related to different stakeholders of education.

PO 8: *Independent and Team Work Capacities:* Perform Function effectively either in the role of member or leader in diversified educational settings and Institutions of Teacher Education. Demonstrate competencies and actions required for keeping oneself professionally engaged

and participate in learning to update knowledge and practice, Targeted to professional needs and school and/or system priorities. Contribute to collegial discussions and apply constructive feedback from colleagues to improve professional knowledge and practice. Meet codes of ethics and conduct established by the education systems and schools. Establish and maintain respectful collaborative relationships with parents/guardians regarding their children's learning and well- being; and participate in professional and community networks and forums to broaden knowledge and improve practice.

PO 9: *Professional Communication Skills:* Use diversified tools and technologies of communications and communication skills to serve the professional purpose and standards expected from classroom to broader zone of educational activities. Develop competencies such as communication skills required to articulate thoughts and to present information and explanations in a well-structured and logical manner. Working effectively with students and their parents, which involves interaction with students, parents and community members to know the students, their family and social and cultural contexts. Determining learning readiness/prerequisites required by students; and identifying their learning difficulties.

Program Specific Outcomes

PSO 1: To develop a healthy value system based on the cultural, social, moral bases of the Indian society.

PSO 2: To acquire various teacher competencies through qualitative multilevel practices

PSO 3: To develop a teacher identity through theoretical discourses, school, and community based experience and reflective practices.

PSO 4: To become aware of the psychological, sociological and philosophical principles and practices which influence schooling of the learners.

PSO 5: To be acquainted with multiple professional responsibilities for performing different tasks in the school.

PSO 6: To act as agents of social change with modern tolerant outlook to the multilingual, multi-ethnic and diversified society.

PSO 7: To promote unity in diversity in the social fabric of Indian society with global outlook but effective locally.

PSO 8: To be sensitive to the issues such as environment, population, gender equality, tolerance, respect to others.

PSO 9: To develop critical thinking and inquiry-based learning for the progress of the learner and society

PSO 10: To develop rational thinking, scientific temper and open mindedness

PSO 11: To make the student teachers understand and plan the learning experiences and opportunities inside and outside the classroom catering to diverse learning and content.

PSO 12: To provide opportunities to student teacher in creating learning experiences to make subject matter more meaningful at secondary level.

PSO 13: To develop the capacity among student teachers to use variety of learning techniques to foster collaborative and cooperative environment in the classroom.

PSO 14: To develop the skills among student teacher to understand and use formal and informal assessment strategies to evaluate and the continuous intellectual, social, emotional and social development of the learners.

PSO 15: To apply the knowledge of Educational administration & management and other allied subjects like Philosophy, Sociology, Psychology etc. in academic planning, organization, evaluation, decision making, resource management according to predetermined goals, norms and standards.

Course Outcomes

All Programs have *activities/content with direct bearing on Employability/ Entrepreneurship/ skill development*

CO 1: *BEDU 111 Philosophical and Sociological Bases in Contemporary*

- To understand the meaning and concept of Philosophy & Education.
- To understand the various philosophical perspectives of Education
- To understand the sociological perspective of Education
- To recognise the contributions and initiatives of Indian Educational thinkers.
- To familiarize with the initiatives and agencies connected with Indian Education
- To develop an understanding of challenges and trends in Education.
- Helps in understanding the various philosophical and sociological perspectives in Education

CO 2: *BEDU 112: Developmental Perspectives of the Learner*

- Explain the importance of heredity in teaching and learning process
- Understand the developmental characteristics of from infancy to adolescence
- Describe the different stages in human development within the developmental psychology framework
- Discuss the individual difference in cognitive and affective domain
- To understand the various theories for cognitive, social, Moral, Language development.
- Familiarize with the various issues the learner faces during learning.
- To describe the learner differences in cognitive and affective domain
- To recognize the issues affecting the learner.
- This course will equip the students with the Psychological Theories given by various Educational Psychologists. The students will get the skills to deal with students according to their development in physical and mental aspects.

CO 3: *BEDU 113: Assessment for Learning*

- To understand the concept of Assessment & Evaluation in education
- To define the terms Assessment, test & Measurement.
- To explain the principles and problems of educational assessment
- To apply the instructional objectives of various domains of learning
- To familiarize with various assessment procedures, tools, and techniques
- To acquaint with the various tools and techniques to assess learners
- To develop basic skill in using elementary statistics in assessment.
- To acquaint with current practices in Assessment.
- To develop the achievement tests and various assessment tools.
- This course will equip students with the understanding of different tools of evaluation and assessment, which can be used by them in school teaching.

CO 4: *BEDU 114: ICT in Education*

- To understand the need and importance of ICT in Education.
- To understand the application of ICT in Education, skills and qualities of an ICT teacher.
- To acquaint prospective teachers with the basic concepts and components of Technology.
- To create an awareness of the impact of technology in Education
- To acquaint with computer ethics

- To explore creative avenues for enriching the classroom teaching learning process.
- This course will equip the students with the usage of various tools in ICT in teaching and learning.

CO 5: *BEDU 115: Perspectives of Learning and Teaching*

- To understand the concept of learning
- To delineate the theories of learning
- To identify the teaching practices best suited for active engagement in learning
- To recognize the dynamic relationship between teaching and learning.
- To demonstrate a sound understanding of teaching strategies and how they impact learning.
- To familiarise with the concept and nature of intelligence
- To understand the basic techniques of teaching and classroom management
- This course will equip students with the understanding of different approaches of learning and teaching techniques, which can be used in the classroom.

CO 6: *BEDU 116.2: Theoretical Bases of School Subjects: English*

- Acquire and use accurate general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
- Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.
- Summarize, paraphrase, discuss and respond to the content information of the text or listening passage orally and in writing.
- Determine and clarify the meaning of unknown and multiple-meaning words and phrases.
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others‟ ideas and expressing their own clearly and persuasively.
- Evaluate and/or reflect on a speaker's point of view, reasoning, and use of evidence, rhetoric, identifying and fallacious reasoning or exaggerated or distorted evidence.
- This course will equip students with the understanding of the subject content, which they need to master for school teaching.

CO 7: *BEDU 116.3: Theoretical Bases of School Subjects: History*

- Develop meaning and characteristics of History
- Realize the impact of civilizations on mankind
- Develop understanding of various empires in India before British rule.
- Understand the contribution of Shivaji Maharaj
- Comprehend the position of India in contemporary world
- Acquaint with the constitution and parliamentary democracy of India
- This course will equip students with the understanding of different civilizations on mankind.
- It will also help the students to acquaint themselves with the constitution and parliamentary democracy of India.

CO 8: *BEDU 116.4: Theoretical base of School Subjects (Geography)*

- Refresh the meaning and scope of Geography as a school subject.
- Familiarize with the universe and solar system

- Understand the interrelationship between man and environment
- Understand the physical nature of Earth
- Comprehend the geographical features of India- Maharashtra.
- Develop skills in practical geography
- This course will help the students in the development of skills and understanding the different aspects of content, which they need for school teaching.

CO 9: *BEDU 116.5: Theoretical base of School Subjects (General Science)*

- Understand the basic unit of life
- Analyze the life process of plants and animals
- Understand matter and its composition
- Comprehend measurement and motion
- Analyze the impact of environment on life
- This course will equip students with the understanding of the subject content, which they need to master for school teaching.

CO 10: *BEDU 116.5: Theoretical base of School Subjects (Mathematics)*

- Comprehend the nature and meaning of mathematics
- Explain the concepts in Arithmetic, Algebra, Geometry & applied mathematics.
- Develop skill in using the basic mathematics in school
- Develop competence in the concepts, facts taught in the school.
- This course will equip students with the understanding of the subject content, which they need to master for school teaching.

CO 11: BEDU 116.7 Theoretical Base of School Subjects: Economics

- Acquaint with meaning nature and importance of Economics
- Familiarize with consumer and producer behavior
- Comprehend the concept of money and banking & public finance
- Become aware of the Indian Economy.
- This course will equip students with the understanding of the subject content, which they need to master for school teaching.

CO 12: *BEDU 116.8: Theoretical base of School Subjects (Commerce)*

- Comprehend the meaning, scope and nature of commerce.
- Familiarize with nature and purpose of Business
- Explain key aspects of Business organizations, trade and Insurance.
- Know about the concept of Finance and management.
- This course will equip students with understanding the key aspects of content, which they need for school teaching.

CO 13: *BEDU 116.9 Theoretical Base Of School Subjects: ICT*

- Comprehend the computer system and its historical background.
- Familiarize with hardware and software
- Explain the internet and its safe use.
- Develop skill in use of computers in day to day life
- This course will equip students with understanding the key aspects of content, which they need for school teaching.

CO 14: BEDU 117.1 Pedagogical Content Knowledge of School Subject: Hindi Method

Familiarize with concept and principles of pedagogical content Knowledge (PCK)

Comprehend the nature and scope of learning Hindi

Comprehend the aims, objective and planning required to teach Hindi

Develop skill in using micro skills of teaching

Know about the resources and methods of teaching Hindi

This course will equip the students with pedagogical content knowledge and its application in classroom teaching.

CO 15: *BEDU 117.2 Pedagogical Content Knowledge of School Subject: English Method*

Familiarize with concept and principles of pedagogical content Knowledge(PCK)

Understand the nature and scope of learning English

Comprehend the aims, objective and planning required to teach English

Develop skill in using micro skills of teaching

Know about the resources and methods of teaching English

This course will equip the students with pedagogical content knowledge and its application in classroom teaching.

CO 16: *BEDU 117.3 Pedagogical Content Knowledge Of School Subject: History Method*

Familiarize with concept and principles of pedagogical content Knowledge(PCK)

Explain the nature and scope of learning History

Comprehend the aims, objective and planning required to teach History

Develop skill in using micro skills of teaching

Know about the resources and methods of teaching History

This course will equip the students with pedagogical content knowledge and its application in classroom teaching.

CO 17: *BEDU 117.4: Pedagogy of School Subjects (Geography)*

Familiarize with concept and principles of pedagogical content Knowledge(PCK)

Explain the nature and scope of learning Geography

Comprehend the aims, objective and planning required to teach Geography

Develop skill in using micro skills of teaching

Know about the resources and methods of teaching Geography

This course will equip students with the understanding of the pedagogy and various methods of teaching the content for school teaching.

CO 18: *BEDU 117.5: Pedagogy of School Subjects (General Science)*

Familiarize with concept and principles of pedagogical content Knowledge(PCK)

Explain the nature and scope of learning General Science

Comprehend the aims, objective and planning required to teach General Science

Develop skill in using micro skills of teaching

Know about the resources and methods of teaching General Science

This course will equip students with the understanding of the pedagogy and various methods of teaching the content for school teaching.

CO 19: *BEDU 117.6: Pedagogy of School Subjects (Mathematics)*

Familiarize with concept and principles of pedagogical content Knowledge(PCK)

Explain the nature and scope of learning Mathematics

Comprehend the aims, objective and planning required to teach Mathematics

Develop skill in using micro skills of teaching

Know about the resources and methods of teaching Mathematics

This course will equip students with the understanding of the pedagogy and various methods of teaching the content for school teaching.

CO 20: *BEDU 117.7 Pedagogic Content Knowledge of School Subject: Economics Method*

Familiarize with concept and principles of pedagogical content Knowledge(PCK)

Understand the nature and scope of learning Economics

Comprehend the aims, objective and planning required to teach Economics

Develop skill in using micro skills of teaching

Know about the resources and methods of teaching Economics

This course will equip students with the understanding of the pedagogy and various methods of teaching the content for school teaching.

CO 21: *BEDU 117.8: Pedagogy of School Subjects (Commerce)*

- Familiarize with concept and principles of pedagogical content Knowledge(PCK)
- Understand the nature and scope of learning Commerce
- Comprehend the aims, objective and planning required to teach Commerce
- Develop skill in using micro skills of teaching
- Know about the resources and methods of teaching Commerce
- This course will equip students with the understanding of the pedagogy and various methods of teaching the content for school teaching.

CO 22: *BEDU 117. 9 Pedagogical Content Knowledge of School Subjects: ICT Method*

- Familiarize with concept and principles of pedagogical content Knowledge(PCK)
- Understand the nature and scope of learning ICT
- Comprehend the aims, objective and planning required to teach ICT
- Develop skill in using micro skills of teaching
- Know about the resources and methods of teaching ICT
- This course will equip students with the understanding of the pedagogy and various methods of teaching the content for school teaching.

CO 23: *BEDU 118 University Based – Teaching Skill I*

- Student teachers will give 12 micro-lessons. For these lessons, they will select any teaching skills from the list given below. They will complete the cycle of two lessons i.e. teach – reteach for each skill Marks calculated out of 25 are to be given for the micro lessons.
- Helps in developing various teaching skills
- Student teachers will give 06 integrated lessons of 20 minutes duration incorporating the micro skills which they have practiced. Each student will also carry out 02 Rehearsal lessons of 30 minutes duration. Both integrated lesson and Rehearsal lessons marks are calculated out of 25 respectively. Rehearsal lessons can be selected from any teacher centered methods learned under BEDU 117 (01-09)
- Helps in developing lesson plan

CO 24: *BEDU 119: School Based–Teaching Skill II*

a) School Induction Program b) Practice Lesson (6)

- To observe the lessons of the senior teacher
- To meet the students informally and learn about their background and interest in learning.
- To observe the facilities of the school in general
- To understand the dynamics of the school climate
- To observe curricular and co curricular activities of the school.
- To interact with regular teachers of the school on challenges of school teaching and rewards
- To assist school teachers in their day to day activities.
- To conduct 2 lessons in the school.
- This course will equip students with the practical knowledge of school administration and their classroom teaching which will help in their employability.

CO 25: *BEDU 120.1 Understanding Self*

- To get acquainted with the process of organizing/ conducting a student tour.
- To promote cooperation among the students.
- To accommodate, collaborate with members of the team.
- To derive leadership and organizational skills.
- To reflect on the growth as a leader.
- This course will provide the opportunity to develop the leadership, organizational and managerial skills among students.

CO 26: *BEDU 120 B) Service Learning:*

- Helps students participate in organised service activities that meet identified community needs.
- Helps students to reflect on the service learning activity which will help to gain an understanding of the sense of civic responsibility.
- This course will equip the students to understand the society and deal with the problems that arise in a community and to be better members of a community with a sense of civic responsibility and sense of welfare for everyone.

CO 27: *BEDU 121: Health Education*

- Preparation of nutrition chart,
- Survey of nutrition plan in the neighbourhood,
- Presentation of use of first aid
- Debate on health hazards, (tobacco, alcohol, drugs, electronic gadgets)
- Planning for health awareness campaign,

- Conduct two Health Awareness class in a school/community,
- Preparation of a chart on the NEWSTART based lifestyle.
- This course will help in the development of skill in students of healthy and hygienic lifestyle, which is important for a schoolteacher since they are role models for the pupils.

CO 28: *BEDU 122: Art & Craft in Education*

- Participate in the workshop for developing teaching aids
- Participate in co- curricular competition
- Participation in food fair
- Submit a collage of pictures of the participation.
- This course will help in development of skill in students of teaching Aids and other co-curricular activities, which are important for a school teacher since it forms an integral part of holistic development of the pupil.

CO 29: *BEDU123: ICT Practical in Education*

- Helps in enhancing the skill of the student teacher in ICT.
- Helps to gain skill in usage of INTEL.
- This course will help the students to gain skills in using the various tools in ICT for teaching and learning.

CO 30: *BEDU 221: Inclusive Education, Gender in School and Society*

- Understand the concept, need and meaning of Inclusive Education.
- Get acquainted with the principles, issues, and problems in Inclusive Education.
- Develop understanding about the role of school in dealing with diversity in classroom.
- Recognize the qualities and role of school, parents in nurturing inclusive education.
- Understand the Role of Teachers and Family and other social agencies in combating
- Gender bias.
- Be aware of the Policies and Legislation that promote Inclusion.
- This course will help the students in knowing the different policies for inclusive children; this course will help the students in knowing the different types of learner/ special children. The students will be equipped with skills to deal with special children.

CO 31: *BEDU 222 Introduction to School Management*

- Comprehend the concept, meaning, functions and theories of management.
- Be aware about administrative set up in Maharashtra state
- Understand the different aspects of school management.
- Know about human resource management
- Be aware of the challenges and issues in secondary and higher secondary.
- Make the students understand how to develop an academic support system.
- Helps in understanding the different theories and aspects of school management.

CO 32: *BEDU 223 Foundations of Knowledge & Curriculum*

- Understand about the concept and nature of knowledge, process of knowing and forms of knowledge.
- Understand the meaning and need of curriculum and differentiate curriculum with syllabus and textbooks.
- Understand the determinants of curriculum and different approaches to curriculum development.
- Understand the role of different agencies in curriculum development.
- Know about core curriculum, hidden curriculum, spiral curriculum.

- Understand about the process of curriculum development, approaches and different models.
- Understand the relationship between power, ideology and curriculum.
- Realize the concept and relevance of language in learning,
- This course will help in the development of various skills such as the process of development of curriculum which can lead to an employability skill in the field of curriculum and syllabus construction.

CO 33: *BED-224.1 Value Education*

- Understand the meaning and nature of Value Education.
- Explain various types of values and social evils.
- Understand the nature, scope, objectives and methods of value education.
- Develop the structure of value education.
- It helps in developing skills to teaching value education by using various methods

CO 34: *BEDU 224.2 Guidance and Counselling*

- Understand the basic concept of Guidance and Counselling
- Understand the different types and approaches to Counselling
- Get familiar with the different types of standardised and non-standardised tests used in data collection
- Understand the concept of Mental health, Mental hygiene and promoting Mental Health
- Understand the importance of guidance programme and guidance services in schools and different Roles played
- Understand the methods to identify the gifted and backward and accordingly guiding them
- This course will help the students in the development of various counselling skills, which can lead to employability skills in the field of Guidance and Counselling.

CO 35: *BEDU 224.3 Education for Sustainable Future*

- Comprehend the concept, meaning, of education for a sustainable future.
- Understand Need and significance of Environmental education in School Curriculum
- Be aware of different Governmental policies on environment
- Be aware of Current Issues in Environmental Impact Assessment
- Be aware of proper disposal of solid waste to minimize its effect on the environment.
- Comprehend the concept of green technology, its goals and challenges.
- Helps in development of skills and Entrepreneurship of proper disposal of solid waste to minimize its effect on the environment.

CO 36: *BEDU 224.4 Introduction to Educational Research*

- To understand the significance and purpose of scientific research.to be aware
- To be aware of the different types and approaches of educational research.
- To plan and develop a research proposal.
- To conduct a scientific enquiry by formulating and testing a hypothesis.
- To realize the importance and purpose of action research in the field of education.
- To develop various tools and adopt different techniques to conduct educational research.
- To plan and write an effective research report.
- Helps in development of skills and Employability in doing various research activities
- To install scholarly writing and research

CO 37: *BEDU 224.5 Educational Entrepreneurship*

- Demonstrate a vivid understanding of the concept of entrepreneurship

- Discuss the relevance of change in education.
- Explain the need of entrepreneurship in education.
- Describe innovation in contemporary education.
- Explore strategies to make education current and accessible.
- Helps one to start their own school

CO 38: *BEDU 225.2 Emerging Trends and Practices in School Subject: English*

- Familiarize latest teaching learning techniques in cooperative learning, models of teaching, graphic organizers, flip-flop methodology, brain-based learning, critical pedagogy,
- Be aware of blended learning.
- Prepare different types of assessment and evaluation tools in classroom teaching
- Observe online resources in teaching learning process individually or in small groups.
- Know the concept of teacher as a reflective practitioner.
- Understand the reflective strategies used by teachers.
- Helps in understanding the different teaching learning techniques and strategies in classroom teaching of various school subjects

CO 39: *BEDU 225.3 Emerging Trends and Practices in School Subject: History*

- Familiarize latest teaching learning techniques in cooperative learning, models of teaching, graphic organizers, flip-flop methodology, brain-based learning, critical pedagogy,
- Be aware of blended learning.
- Prepare different types of assessment and evaluation tools in classroom teaching
- Observe online resources in teaching learning process individually or in small groups.
- Know the concept of teacher as a reflective practitioner.
- Understand the reflective strategies used by teachers.
- This course will equip the students with the learning of various teaching methods.
- This course will also equip the students to apply various assessment techniques for students.

CO 40: *BEDU 225.4 Emerging Trends and Practices in School Subject: Geography*

- Familiarize latest teaching learning techniques in cooperative learning, models of teaching, graphic organizers, flip-flop methodology, brain-based learning, critical pedagogy
- Be aware of blended learning.
- Prepare different types of assessment and evaluation tools in classroom teaching
- Observe online resources in teaching learning process individually or in small groups.
- Know the concept of a teacher as a reflective practitioner.
- Understand the reflective strategies used by teachers.
- This course will equip the students with the latest techniques in cooperative learning, pedagogies, and assessment and evaluation tools in classroom teaching which will help them in their professional development as a teacher in future.

CO 41: *BEDU 225.5 Emerging Trends and Practices in School Subject: General Science*

- Familiarize latest teaching learning techniques in cooperative learning, models of teaching, graphic organizers, flip-flop methodology, brain-based learning, critical pedagogy,
- Be aware of blended learning.
- Prepare different types of assessment and evaluation tools in classroom teaching

- Observe online resources in teaching learning processes individually or in small groups.
- Know the concept of a teacher as a reflective practitioner.
- Understand the reflective strategies used by teachers.
- This course will equip the students with the latest strategies, pedagogies, assessment in classroom assessment, which will help them in their professional development as a teacher in future.

CO 42: *BEDU 225.6 Emerging Trends and Practices in School Subject: Mathematics*

- Familiarize latest teaching learning techniques in cooperative learning, models of teaching, graphic organizers, flip-flop methodology, brain based learning, critical pedagogy,
- Be aware of blended learning.
- Prepare different types of assessment and evaluation tools in classroom teaching
- Observe online resources in teaching learning processes individually or in small groups.
- Know the concept of a teacher as a reflective practitioner.
- Understand the reflective strategies used by teachers.
- This course will equip the students with the latest strategies, pedagogies, assessment in classroom assessment, which will help them in their professional development as a teacher in future.

CO 43: *BEDU 225.7 Emerging Trends and Practices in School Subject: Economics*

- Familiarize latest teaching learning techniques in cooperative learning, models of teaching, graphic organizers, flip-flop methodology, brain-based learning, critical pedagogy,
- Be aware of blended learning.
- Prepare different types of assessment and evaluation tools in classroom teaching
- Observe online resources in teaching learning process individually or in small groups.
- Know the concept of a teacher as a reflective practitioner.
- Understand the reflective strategies used by teachers.
- This course will help the students in the development of the latest techniques in cooperative learning, pedagogies, and assessment and evaluation tools in classroom teaching which will help them to develop professional skills in classroom teaching.

CO 44: *BEDU 225.8 Emerging Trends and Practices in School Subject: Commerce*

- Familiarize latest teaching learning techniques in cooperative learning, models of teaching, graphic organizers, flip-flop methodology, brain-based learning, critical pedagogy,
- Be aware of blended learning.
- Prepare different types of assessment and evaluation tools in classroom teaching
- Observe online resources in teaching learning process individually or in small groups.
- Know the concept of a teacher as a reflective practitioner.
- Understand the reflective strategies used by teachers.
- this course will help the students in the development of the latest techniques in cooperative learning , pedagogies, assessment and evaluation tools in classroom teaching which will help them to develop professional skills in classroom teaching.

CO 45: *BEDU 225.9 Emerging Trends and Practices in School Subject: ICT*

- Familiarize latest teaching learning techniques in cooperative learning, models of teaching, graphic organizers, flip-flop methodology, brain-based learning, critical pedagogy,
- Be aware of blended learning.
- Prepare different types of assessment and evaluation tools in classroom teaching
- Observe online resources in teaching learning processes individually or in small groups.
- Know the concept of a teacher as a reflective practitioner.
- Understand the reflective strategies used by teachers.
- This course will help the students in the development of the latest techniques in cooperative learning, pedagogies, and assessment and evaluation tools in classroom teaching which will help them to develop professional skills in classroom teaching.

CO 46: *BEDU 226 University Based – Basic Teaching Skill III*

- Helps in understanding the different co-operative learning strategies in the teaching learning process.

CO 47: *BEDU 227 School based Teaching Skill – IV (Practice lessons & Internship)*

- To conduct 12 Practice lessons as far as possible equally distributed in two subjects selected by the student in the course BEDU 116.
- To complete 12 lessons in two subjects as a block teaching followed by a unit test.
- To plan a formative type of assessment to determine the learning process of the students (worksheet/class test).
- To give a summative type of assessment (unit test) at the end of the unit.
- To gain an understanding in writing a report on the physical plant of the school where the internship is done.
- To understand about the organization structure and records of the school.
- To become familiar with the planning and conduction of co-curricular and extra-curricular activities.
- To reflect on the observation of the peers on their lesson conduction.
- This course will provide an opportunity to work as an intern in the school and gain experience of working in school as a teacher and their responsibilities, which will help them to a great extent when they will work as a teacher in the school.

CO 48: *BEDU. 228: Community Based Understanding Self II (Webinar)*

- To promote social adjustment of the student teachers
- To develop critical thinking about various issues in the society and the impact on one self
- To promote leadership skill of the student teacher
- To understand the balance between body and mind for a well-balanced personality
- This course will help in development of various skills in pupils like planning, organising, presenting and conducting a webinar, which will impart Entrepreneur skills in them.

CO 49: *BEDU 229 Action Research*

- To understand the significance and purpose of research.
- To be aware of the different types and approaches of educational research.
- To choose a relevant problem related to the classroom teaching learning process.
- To plan and develop a research proposal.
- To conduct a scientific enquiry by formulating and testing a hypothesis.
- To realize the importance and purpose of action research in the field of education.
- To plan and write an effective research report.

- This course will help in the development of various skills in students such as data analysis, data presentation, report writing. The student can do action research further in their career as a teacher when they face any problem in their classroom teaching. The research attitude is also developed through this course leading the students to go for higher studies such as PhD.

CO 50: *BEDU 230: Directed Individual Course: 21st Century Skills*

- Understand the mental processes required to adapt and improve upon the modern work environment.
- Understand how students can discern facts, publishing outlets, and the technology behind them.
- Understand the intangible elements of a student's everyday life. These intangibles focus on both personal and professional qualities.
- This course will help the students in the development of life skills to become a well-rounded individual that can thrive both in their personal and work lives. This includes adaptability, leadership, initiative, efficiency and social skills.
- This course will also help the students to process and communicate information that includes creativity, critical thinking ability, collaboration and communication.

CO 51: *BEDU 231 Physical Education*

- Acquire knowledge about the track and field events.
- Become familiar with major and minor games; and to develop interest in sports and games.
- Understand the ability to organize and conduct sports and games.
- Understand the importance and values of recreational activities
- Understand the importance of exercises(aerobic exercise like brisk walking, swimming, running, or cycling, yoga as system of physical exercises and breathing techniques)
- Helps individuals to develop the ability to organize and conduct sports and games.
- It helps students understand the importance of physical education/training in the all-round development of a person.

CO 52: *BEDU 232 Reading and Reflecting on Text*

- Promote the reading habit
- Develop reading skills
- Enhance the ability in synthesizing, critiquing and summarizing text
- Helps in developing reading and comprehension skills

CO 53: *BEDU 233 Drama in Education*

- To develop:
    - Simple drama
    - Puppets
    - Role plays/ street plays/ Mono-act
- Helps in developing language and communication skills.

Course Structure and Syllabus **First Year** **Second Year**

IV. DIVISION OF PERFORMING ARTS

Under Graduate (Duration: 4 Years)

1. BPA Music (Honours)

PROGRAM STRUCTURE

The Division of Performing Arts - Music, at Spicer Adventist University offers a four-year Bachelor degree in Western Classical Music. The total credit hours is 160. The Program follows a semester system, with eight semesters, where each semester has 20 credit hours. This program has two concentrations: Piano and Voice. The students may choose either one of the concentrations.

The program has been designed on the Choice Based Credit System (CBCS) and the syllabus is structured on the Learning Outcomes Curriculum Framework (LOCF) of the UGC. The structure of the Division of Performing Arts-Music, is a student centric program, inculcating in them knowledge, skills and values for lifelong learning and development.

The Division of Performing Arts-Music aims to inspire and nurture future musicians with a holistic education. The program helps them to realize their potential and develop it, and to qualify them to appreciate Western Classical Music. Further, it equips the students to serve the community, and be skilled with the awareness of Western, Classical and Sacred music.

On completion, the student will demonstrate proficiency in music skills and music education.

Program Outcomes

PO 1: Each music graduate will demonstrate a broad knowledge of music history and theory
PO 2: Each music graduate will demonstrate musicianship skills adequate to support the performance and pedagogy of music.
PO 3: The music graduates will demonstrate an understanding of career options related to teaching Music.
PO 4: Vocal music graduates will demonstrate proficiency in teaching in colleges, schools or prepare and direct church and school choirs.
PO 5: The music graduates will demonstrate an understanding of career options related to teaching Music.
PO 6: They will demonstrate clarity and expression in conducting gestures, score reading and communicating vocal technique and required skills to sing.
PO 7: Graduates will demonstrate the skill-set needed of music teachers for studios and private and public schools.
PO 8: Piano music graduates will have a proficiency to teach piano in music institutes or to give private lessons, teach music in schools, accompany choirs, or solo voice or instrument, or be a part of an ensemble.
PO 9: The graduates are capable of being good performers in their field of study.
PO 10: Music teachers: The graduates are capable of teaching music in music institutes, colleges, and schools for the Secondary and Elementary Sections.

Program Specific Outcomes

PSO 1: Equip Music teachers with the knowledge and skills in music education to teach in their field of study.
PSO 2: Inculcate in Vocal majors the knowledge to train solo singing and direct choirs.
PSO 3: Equip Piano majors with skills needed to accompany solo voice, instrument or ensembles.

PSO 4: To be a part of an ensemble.
PSO 5: Qualify future musicians with music skills in performance in their field of study.
PSO 6: Promote the interest of western classical music in the youth and children.
PSO 7: To nurture musicians with the knowledge and skills of western classical sacred music for the church.
PSO 8: Impart the appreciation and knowledge of western classical music to the community.
PSO 9: Provides the knowledge to read and interpret the music written by composers, in order to perform well.
PSO 10: Provides fundamentals to play and compose music.

Course Outcomes

CO 1: *MUED 111 Music Appreciation I*

- Develop a working vocabulary of musical terms, concepts and elements of music
- Recognize the aesthetic and stylistic characteristics of music from different historical eras**.**
- Have an understanding of the socio-cultural influences of the different periods of music.
- Broadly analyse the style of works from different historical eras.
- Develop skills in the art of listening to Western Art music.
- Inculcate the ability to communicate to others the awareness of Western.

CO 2; *MUED 121 Music Appreciation II*

- Understand the musical characteristics of each era.
- Distinguish between the different types of musical forms in each era.
- Tell the compositional styles of composers.
- Analyse in music forms of each period.
- Learn songs and instrumentals from different composers.
- Do presentations about the background of music and composers
- Explain the changes of musical ideas from one era to another.

CO 3: *MUPF 112 Musicianship I*

- Quickly identify from flashcards notes of the grand staff up to two ledger lines above and below the treble and bass staff.
- Feel and clap/tap the regular pulse as well as the strong beat of music being played.
- Echo-clap as well as write down the note values of a short 3 or 4-bar rhythmic exercise performed by the instructor.
- Clap rhythms from rhythmic exercises that use note values being studied; tied notes and syncopated rhythms being included.
- Echo, sing or play back a 4-bar melodic phrase within an octave in a major or minor key played by the instructor.
- Hum or sing one of the notes of the first five degrees of the major and minor scale.
- Sing, as well as play, the notes of the major triad, the major scale, and one-octave arpeggio in C major, F major, and G major
- Identify from flashcards the major and minor key signatures of the major & minor keys studied so far.
- Sing, as well as play, the notes of the 3 types of minor scales (natural, harmonic & melodic), the minor triad, and one-octave arpeggio in the relative minor keys (Am, Dm, and Em).
- Recognize and sing intervals of a: M2, m2, M3, m3, P4, P5, M6, m6, M7, m7 and P8.

CO 4: *MUPF 122 Musicianship II*

- Learn new notes in the treble and bass clefs (up to 3 ledger lines above or below the stave).

- Learn the major and relative minor keys (natural, harmonic and melodic) of 2 flats and 2 sharps, their scales, key signatures, one-octave arpeggios, broken chords and tonic triads (root, first- and second-inversion).
- Learn about the 5th degree (dominant) of the major/minor scale and the Dominant triads for all keys covered so far.
- Learn about the 7th degree (leading note) of the major/minor scales.
- Learn about the perfect cadence (major or minor keys).
- Learn about the major/minor 6th and major/minor 7th above any tonic for the grade.
- Learn to write well-balanced 4-part chords for SATB voice ranges.
- Learn about Real and Tonal sequences.
- Learn about similar and contrary motion.
- Learn about transposing up or down an octave from treble to bass clef or vice versa.
- Learn about the ranges of violin, flute, cello, and bassoon and the f

CO 5: *MUPF 113 Applied Music Piano I*

- Have good hand position and finger dexterity.
- Play white major scales two octaves hands together.
- Play white major arpeggios, two octaves separate hands.
- Have balance of melody with one hand and accompaniment with the other.
- Develop the correct technique to play legato, staccato, accent, two or three -note phrases, pedaling.
- Perform the music pieces expressively.

CO 6: *MUPF 123 Applied Music Piano II*

- To have good hand position and finger dexterity.
- To play one to four sharps and flats major scales and their relative minor scales two octave, hands together.
- To play one to four sharp and flat major and minor broken chords and arpeggios in two octaves separate hands.
- To play songs: balance of the melody with one hand and accompaniment with the other.
- To develop the correct technique to play legato, staccato, dynamic, accent, small group – notes phrases, pedaling.
- To play expressively.

CO 7: *MUPF 114 Applied Music Voice I*

- Develop correct posture when singing.
- Breathe according to the length of phrases.
- Pronounce the words distinctly by lengthening the vowels and shortening the consonants etc.
- Express the meaning of the words through body expression and general dynamics.
- Produce good vocal tone and accurate intonation.

CO 8: *MUPF 124 Applied Music Voice II*

- To analyze the length of phrases of a song and breathe accordingly.
- To pronounce the words correctly by lengthening the vowels and shortening the consonants.
- To express the meaning of the words through body language and facial expression..
- To produce good vocal tone and correct intonation through Vocalization, Exercises and learning to pitch semitones correctly.
- To Increase vocal range.
- To be aware of the Registers of the voice.
- To develop musicianship and stage poise.
- To increase Sight Singing ability.

- To develop careful listening through Aural Training.
- To develop Legato Singing and Tonal Equalization of the voice.

CO 9: *MUCT 115 Fundamentals of Music I*

- Learn about note values -- semibreves, dotted minims, minims, crotchets, quavers (beamed in 2s, 4s or 6s only), dotted crotchets, single quavers and semiquavers (beamed in 4s).
- Learn about rest values – semibreves, minims, crotchets, dotted crotchets and single quavers.
- Identify note names on the treble and bass staff up to 2 ledger lines above and below the stave
- Learn and understand simple Time Signatures – 2/4, 3/4, 4/4, C, 3/8, 2/2 (₵) and 3/2.
- Group note and rest values already learned within the simple time signatures
- Learn about Accidentals – the sharp, the flat, the natural
- Learn about Tones and Semitones
- Learn about the major keys of C, F and G major, their scales and scale degrees, key signatures, one-octave arpeggios and tonic triads (root position).
- Learn about relative minor keys of A, E, and D minor, their scales (natural, harmonic), key signatures, one-octave arpeggios, and tonic triads.
- Identify intervals: 2^{nd}, 3^{rd}, 4^{th}, 5^{th}, octaves (numbers only) and the major & minor 3rds.
- Know about root position and first inversions of major and minor triads covered so far; about broken chords.
- Label tonic triads as a chord symbol and Roman numeral.
- Know and understand the circle of 5ths (map of major and relative minor keys) of the keys learnt so far.
- Learn about tied notes.
- Understand the concept of slow and fast beats with different time signatures.
- Learn about sequences.
- Learn about syncopation (offbeat notes).
- Know about the ranges of soprano, alto, tenor and bass voices.
- Write a 2-bar melody to a given rhythm in the keys learned.
- Learn musical words and symbols:
- Analyze and answer questions on a given musical passage based on concepts learned so far.

CO 10: *MUCT 125 Fundamentals of Music II*

- Identify notes up to 3 ledger lines above and below the treble and bass clef.
- Learn about compound time signatures (6/8, 9/8, 12/8).
- Know and use semiquaver notes & rests, dotted quavers and dotted quaver rests in simple and compound time.
- Group note and rest values within compound time signatures.
- Learn about the anacrusis and the ties using new note values.
- Learn about the melodic minor scale
- Write major and minor scales, arpeggios, broken chords and inversions of tonic triads up to two sharps and two flats.
- Know and write second inversions of tonic triads.
- Identify and write arpeggios (major and minor) and broken chord patterns using tonic triads.
- Identify and write real and tonal sequences in their melody writing.
- Identify intervals of major and minor 6th and 7th by sound and by sight.
- Transpose tunes up or down an octave.

- Write tonic triads as 4-part chords for SATB voices within their ranges.
- Construct and identify the tonic and Dominant triads for major and minor keys up to two flats and two sharps.
- Write tunes using notes from the tonic or dominant triads above a bass line.
- Analyze and answer questions on a given passage on concepts learned so far.

CO 11: *MUPF 116/126/236/246/356/366/476/486 Vocal Ensemble*

- Have an enriching and expressive musical experience.
- Develop the skills to harmonize and sing in parts: SATB (soprano, alto, tenor, bass).
- Learn to interact and synchronize as a team to develop the skills in: diction-enunciation and articulation, balance, intonation, breath control and voice production.
- Acquire the skill to organize themselves for performance.
- Have the opportunity to sing in various genres of choral literature.
- Develop the enthusiasm in choral singing so that music will be a part of their lives.

CO 12: *MUHL 231 Music History I*

- Gain exposure to their musical characteristics of the Romanesque, Gothic, Renaissance and Baroque periods.
- Analyze the styles, trends of the Romanesque, Gothic, Renaissance and Baroque Periods.
- Write the biography of composers and their contribution to music during the Romanesque, Gothic, Renaissance and Baroque Periods.
- Recognize the different characteristics, styles of these periods, and know the various areas as centers of music.
- Describe the growth and development of vocal and instrumental works both vocal and instrumental.
- Gain knowledge of socio-cultural influences of music of the Medieval, Renaissance and Baroque period.
- Understand the various functions of music of the Medieval, Renaissance and Baroque periods.

CO 13: *MUHL 241 Music History II*

- Gain exposure to their musical characteristics of the Classical and Romantic periods.
- Analyze the styles, trends of the Classical and Romantic periods.
- Write the biography of composers and their contribution to the Classical & Romantic Periods.
- Recognize in detail the different characteristics of each period, places as music centers.
- Describe the growth and development of musical works both vocal and instrumental.
- Gain knowledge of socio-cultural influences of music of a period
- Understand the various functions of music of a particular period.

CO 14: *MUPF 232 Musicianship III*

- Listen intelligently to music.
- Understand and analyze in musical terms what has been heard.
- Have a better understanding in theory and practice.
- Have a better knowledge of various musical styles.
- Have developed listening skills to aid in the performance of their instruments.
- Better identify modulations and cadences.

CO 15: *MUPF 242 Musicianship IV*

- Listen to a piece music and identify the following meters: 2/4, 3/4, 4/4, 6/8
- Analyze the genre of a piece of music and the style of a particular period.
- Listen and identify the dynamic changes, echo effect and rise and fall within phrases, also identify the articulation in the music piece.

- Understand the texture of a piece of music if it is monophonic, homophonic or polyphonic, Unison, 2-part, 3-part, or 4-part.
- Identify modulations to closely-related keys: subdominant, dominant or relative minor.
- Develop musical memory and awareness to pitch and rhythm.

CO 16: *MUPF 233 Applied Music - Piano III*

- Have good hand position and finger dexterity.
- Play G-B major and F-Db major scales and their relative minors, four octaves hands together.
- Play G-B major and F – Db major arpeggios and their relative minors, four octaves, hands together.
- Develop musicianship and balance two-part melody with one hand and accompaniment with the other.
- Develop the fluency of the correct technique to play legato, staccato, accent, various dynamics, phrasing, pedaling.
- Play pieces expressively and prominently.

CO 17: *MUPF 243 Applied Music Piano IV*

- Sight read pieces in the key signatures of four and five sharps/flats.
- Learn to play complicated rhythmic patterns: duple against triple grouping of notes, dotted quavers with semiquavers and demisemiquavers, triplets and unusual grouping of notes.
- Understand and perform ornaments: mordent, turns, and trills.
- Play intermediate- level pieces of different styles.

CO 18: *MUPF 234 Applied Music Voice III*

- Analyze the length of a phrase of a song to breathe accordingly.
- Pronounce the words correctly by lengthening the vowels and shortening the consonants.
- Express the meaning of the words through body movement and facial expressions.
- Produce good vocal tone and correct intonation through vocalization exercises and learn to pitch semitones correctly.
- To develop the vocal range and vocal dynamics..
- Understand the registers of the voice.
- Develop musicianship
- Develop stage poise for performance.
- Increase sight reading abilities concentrated on the next level.
- Develop careful listening through aural training.
- Observe dynamics and ornaments in the music.
- Participate in a student recital at the end of the semester.

CO 19: *MUPF 244 Applied Music Voice IV*

- Analyze the length of a phrase of a song to breathe accordingly.
- Pronounce the words correctly by lengthening the vowels and shortening the consonants.
- Express the meaning of the words through body movement and facial expressions.
- Produce good vocal tone, and correct intonation through vocalization exercises and learn to pitch semitones correctly.
- To develop the vocal range and vocal dynamics..
- Understand the registers of the voice.
- Develop musicianship.
- Develop stage poise for performance.
- Increase sight singing abilities at an intermediate level.

- Develop careful listening through aural training.
- Observe dynamics and ornaments in the music.
- Participate in a student recital at the end of the semester.

CO 20: *MUCT 235 Music Theory I*

On the successful completion of this course the student will be able to:

- Write music in the alto Clef in addition to the treble and bass clefs.
- Set words to a rhythmic pattern.
- Understand the Circle of 5ths.
- Transpose music as required (Perfect intervals up or down).
- Compose the bass line to a given melody.
- Play the chromatic scale.
- Understand the enharmonic equivalents notes.
- Write all the major and minor scales.
- Play arpeggios in key signatures of five sharps and flats and their relative minors.
- Recognize scales in a given melodic phrase.
- Write broken chords and their inversions in the tonic triads.

CO 21: *MUCT 245 Music Theory II*

- Read music in the Tenor clef
- Set words to a rhythm
- Connect the sound and the symbol.
- Understand the Aural Tests more easily.
- Transposed tunes up or down as required.
- compose a tune in the treble and bass clef
- Familiar with all the scales including the Pentatonic Major Sales.
- Acquaint the student with all kinds of Time Signatures, Including irregular Time Signatures.
- Enable the student to write music in the alto and tenor clefs In addition to the treble and bass clefs.
- Label music with Roman numerals below and chord symbols above.
- Understanding the primary chords and the supertonic chord.
- Recognize modulation in the music
- Learn musical words and symbols
- Understand the music form
- Analyze different music pieces.

CO 22: *MUPF 237 Electronic Keyboard I*

- Master the electronic keyboard instrument- set up and the features.
- Co-ordinate the melody of the right hand with the accompaniment on the left hand.
- Read chord symbols that are above the melody line.
- Play different chord progressions.
- Play different contemporary styles on the keyboard.
- Study specific techniques and basic features required for playing the keyboard.
- Master a sense of pulse either by conducting, tapping or clapping.
- Understand basic level music notations, time signatures and rests.
- Develop skills in sight reading.
- Master the scales, arpeggios and primary chord progression of major keys.
- Master the first steps of recognized keyboard-playing development schedule.

CO 23: *MUPF 247 Electronic Keyboard I*

- Master the keyboard instrument – setup and the features.
- Perform with specific techniques and operate basic features required for playing the keyboard.

- Identify a sense of pulse either by conducting, tapping or clapping
- Read notated music for the electronic keyboard.
- Sight read upto key signatures with four sharps and flats
- Play primary chord progressions of major and minor keys upto four sharps and flats.

CO 24: *MUPF 238Applied Music Guitar I*

- Fix new strings and tune the guitar correctly with/without the help of a tuning device
- Play chords and scales based on the CAGED system
- Play easy songs with simple chords (primary chords)
- Read standard notation and guitar tablature (Open position to IV position on the fretboard)
- Play songs by listening to a recorded pop song or other simple classic songs and follow the chords
- Play in duets and ensembles.

CO 25: *MUPF 248 Applied Music Guitar II*

- Know correct hand placement for playing barre chords
- Understand the chord progressions- 12-bar blues, II V I jazz chord progression
- Identify open chords and barre chords
- Differentiate minor chords and major chords
- Play open chords and barre chords clearly.
- Maintain beats with simple strumming patterns to play folk songs, blues and simple jazz chords
- Play chordal accompaniment for a soloist
- Develop skills required for more advanced learning
- Play duet with friends.

CO 26: *MUHL 351 Music History Iii*

- Have exposure to musical characteristics of the twentieth century
- Have a clear understanding of styles and trends of the twentieth century music
- Have the knowledge about the composers and their contribution to the 20th century
- Gain knowledge of socio-cultural influences of music of the period
- Understand the various functions of music of the period.

CO 27: *MUPF 352 Musicianship V*

- Listen to a piece of music and identify the meter: 2/4, ¾, 4/4
- Listen and identify the dynamics changes and echo effect and rise and fall within the phrases also identify the articulation in the music piece
- Analyse the style of a piece of music and the style of the particular period
- Understand the texture of a piece of music if it is mono [phonic, homophonic, or polyphonic, unison, 2 - part, 3 - part, or 4 - part.
- Identify into which key the music has been modulated, the subdominant, dominant, or relative minor.
- Develop musical memory and awareness to pitch and rhythm

CO 28: *MUPF 367 Musicianship VI*

- Achieve fluency in the language of music in written and aural form.
- Gain knowledge and understanding of historical musical styles
- Have a better knowledge in composition techniques and performance practices.
- Gain skills, advance knowledge in theory and repertoire
- Develop skills in analysing musical form
- Gain further knowledge in pedagogy in their instrument.

CO 29: *MUPF 353 Applied Music Piano V*

- Analyse and sight-read pieces up to B and Db majors and to modulate to any related key. (Including double sharps and flats).

- Analyse time signature 2/2, 2/4, 3/4, 4/4, 6/8, 9/8, and changing time signatures.
- Develop significant features of the piece, style, rhythm, texture, dynamics, phrasing and articulation.
- Develop techniques in tone balance and voice: coordination, finger and wrist strength and flexibility.
- Acquire the ability to: perform fluently, to interpret music with a sense of stylistic understanding, control the instrument effectively, and compass various techniques and requirements.

CO 30: *MUPF 363 Applied Music Piano VI*

- On the successful completion of the course the student will be able to:
- Cultivate musical imagination to perform expressively.
- Develop fluency and accuracy while performing.
- Enhance his skill to interpret music with understanding.
- Develop techniques to perform stylistically.

CO 31: *MUPF 354 Applied Music Voice V*

- To analyse the meaning of a song and sing it more expressively and portray the meaning of the words through vocal tone and facial expression.
- To develop the art of blending the registers without any audible break.
- To sing with correct intonation through vocalization exercises and learning to pitch semitones correctly.
- To develop breath support and increase the range of the voice.
- To know how to use the registers of the voice for maximum effect.
- To develop musicianship and stage poise.
- To develop careful listening through aural training.

CO 32: *MUPF 364 Applied Music Voice VI*

- Analyse the meaning of a song and sing it more expressively and portray the meaning of the words through vocal tone and facial expression.
- Develop the art of blending the registers without any audible break.
- Sing with correct intonation through Vocalization Exercises and Learning to pitch semitones correctly.
- Develop breath support and increase the range of the voice.
- Know how to use the registers of the voice for maximum effect.
- Develop musicianship and stage poise.
- Develop careful listening through Aural Training.

CO 33: *MUCT 355 Music Theory V*

- To get a clear idea of harmony and sequences.
- To write chords using 4-part harmony.
- To compose 8-bar melodies using major, minor, pentatonic major and minor, blues and whole-tone scales as well as the Aeolian and Dorian modes.
- To make students familiar with all kinds of modes and scales.
- To make students aware of modulation through pivot notes and pivot chords.
- To recognize diminished 7^{th}, dominant 7^{th} and secondary 7^{th} chords.

CO 34: *MUCT 365 Music Theory IV*

- Get a clear idea of harmony and sequences.
- Write chords using 4-part harmony.
- Compose 8-bar melodies using major, minor, pentatonic major and minor, blues and whole-tone scales as well as the Aeolian and Dorian modes.
- Write all kinds of church modes and scales.
- Analyse modulation through pivot notes and pivot chords.
- Recognize diminished 7^{th}, dominant 7^{th} and secondary 7^{th} chords.

- Writing 4-part harmony
- Analysing Harmonic sequences and suspensions.
- Identifying modulations in a music piece.
- Writing open and close scores
- Understanding the layout of the orchestral score - Classical period.
- Transpose intervals for the transposing instruments of the orchestra.
- Know musical words and symbols.

CO 35: *MUPF 357: Contemporary Vocal Music*

- Sing different types of genres.
- Sing blues scales.
- Correct breathing technique and controlled dynamics.
- Recognize voicing in major chords and minor chords.
- Singing in the correct pitch.
- Give enough thought to stylistic, textual and interpretative consideration.
- Demonstrate their ability in stage performance.
- Convey the mood of the variety of styles.
- Analyse, classify and perform different types of contemporary vocal music.

CO 36: *MUPF 358: Contemporary Instrumental Music- Piano/Guitar*

- Play different types of scales such as pentatonic, diatonic, blues scales
- Play Dorian mode and Lydian mode.
- Play chord progressions in different keys.
- Recognize voicing in Major and Minor, Augmented and Diminished chords.
- Recognize the different types of scales: major, minor, pentatonic, blues.
- Master a secure technique allied to musical understanding.
- Give enough thought to stylistic, textual and interpretative considerations.
- Demonstrate their ability on the stage performance.
- Convey the mood of the variety of styles.
- Analyse, classify and perform different types of contemporary music.

CO 37: *MUHL 361 Vocal Literature*

- To learn about important styles and composers of vocal literature and study representative selections of the standard vocal literature through listening assignments, song performances, and other projects.
- To be exposed to histories great singers / interpreters of art song, and will continue to develop their interpretive understanding of each genre through discussion, analysis, and listening.
- To understand the technique involved in singing the chosen material as regards to voice, range, voice production, diction, intonation, etc.
- To my sincere hope that each of the students will be inspired to explore vocal music with a deeper appreciation as they continue their vocal endeavours past this semester.

CO 38: *MUHL 362 Piano Literature*

- Acquaint with the materials available for teaching purposes.
- Demonstrated an advanced knowledge of appropriate pedagogical group piano methods and techniques for both one-on-one and group piano instruction.
- Provides a broad survey of keyboard music from the pre-baroque through the 20th century.
- Enables the student to choose intelligently the best music for his/her students.
- Recognized the major works, gained by listening and analysing experiences.
- Gain the knowledge of familiarity with the older keyboard instruments.
- Demonstrates piano performance skills at a high level, using creative and critical thinking

CO 39: *MUPF 361 Singers Diction*

- Sing the songs meaningfully.
- Pronounce the words of the German and Italian songs correctly.
- Express the song with emotions portrayed in the songs.
- Acquaint the students with songs in other languages.
- Learn various types of songs such as Folk Songs. Arias from Operas and Oratorios, German Lieder, English Songs and Neapolitan Songs as well as songs from various Musicals.

CO 40: *MUPF 362 Vocal Chamber*

- Have an enriching and expressive musical experience.
- Learn to interact and synchronize as a team to develop the skills in: diction-enunciation and articulation, balance in intonation, breath control and voice production.
- Acquire the skill to organize themselves for performance.
- Develop consistent vocal technique and expressive singing skills through the study and performance of a stylistically diverse repertoire. (Vocal skill development)
- Develop discriminating listening skills with regard to ensemble singing, balance, blend, timbre, diction, pitch, rhythm, harmony (aural skill development)
- Develop an awareness of and sensitivity to stylistic aspects of western traditions.
- Experience and evaluate a variety of music and performance with regard to expressive qualities, interpretation, and musical/emotional effect.

CO 41: *MUPF 368: Collaborative Arts - Piano*

- Learn how to effectively play in an Ensemble or accompany a singer.
- Learn to successfully collaborate with other instruments in a variety of combinations.
- Gain knowledge of the Technique required in accompanying.
- Gain a better knowledge and understanding of the relationship between text and music.
- Read open score music.
- Covers important music fundamentals such as how to read music notation, understand rhythm.
- Complete control over the touch and dynamics of the instrument.
- Master the key system of the circle of 5th.
- Understand the relationship of the major and minor triads in music
- Learn how to play rhythm patterns and how to put it all together to play songs in a wide variety of styles.
- Exhibit proper stage presence and be more sensitive to other performers while on stage.

CO 42: *MUPF 369 Piano Ensemble*

- Develop rhythmical steadiness in performance.
- Aid in advancement of sight reading
- Quicken the sense of hearing, colour and blending of parts.
- Develop the correct technique in articulation
- Play the music pieces expressively
- Develop coordination with another instrumentalist.
- Explore, study and learn a vast repertoire of piano literature.
- Aid in eye, hand and ears coordination in while performing
- Master collaborative stage presence and etiquette.

CO 43: *MUPF 471 Basic Conducting*

- Have the knowledge of the theory for the techniques of conducting
- Gain the skill necessary for the leading congregational singing effectively

- Have gained the skill and knowledge to train and conduct the choir
- Learn the techniques for training and directing other vocal ensemble.

CO 44: *MUED 472 Vocal Pedagogy*

- The study of vocal mechanics in which there are three main areas: Respiration, Resonance, and Registration, and the common problems within these areas.
- To acquaint the student with vocal repertoires.
- To give the students practical knowledge in vocal instruction and help him build attitudes towards teaching by practical experience throughout the semester.
- To understand the technique involved in singing the chosen material as regards range, voice production, diction, intonation, etc.

CO 45: *MUED 473 Piano Pedagogy*

- Applied the piano technique with the most effective ways to achieve artistic playing as taught by the masters
- Built up the suitable personality to become a Piano teacher
- .Study piano repertoire and objectives in music buying.
- Give the student practical knowledge in piano teaching methods and help him build an attitude towards teaching and learning by practical experience throughout the semester.

CO 46: *MUPF 474 Analysis Of Music Form*

- Gain an understanding of the basis forms of music composition.
- Appreciate music while it is heard or played.
- Analyze the section in the music as an aid to memory work.
- Develop the art of careful listening and recognize repetitions of the main theme.
- Analyze various key changes in the music.
- Understand and recognize variations in the music.

CO 47: *MUCT 475 Music Theory V*

- Get a clear idea of harmony and sequences.
- Write chords using 4- part harmony.
- Compose 12- 16 bar melodies, for various instruments, using major, minor, pentatonic major and minor, blues and whole-tone scales as well as the Aeolian, Dorian and Mixolydian modes.
- Understand Serialism and write Tone Rows as well as 12 tone melodies.
- Write all kinds of church modes and scales.
- Analyze modulation through pivot notes and pivot chords.
- Recognize diminished 7^{th}, dominant 7^{th} and secondary 7^{th} chords.
- Identify and write Augmented 6^{th} chords such as the Italian 6^{th}, French 6^{th} and German 6^{th}.
- Harmonise Chorales in the style of J S Bach.
- Write for the piano and orchestra in the Romantic period.
- Write a score in C

CO 48: *MUPF 477 External Performance - Voice*

- Acquire the ability to perform fluently, with a stable pulse and with an accurate technique
- Have the ability to control the voice effectively
- Interpret music in a way that conveys a sense of stylistic understanding.
- Demonstrate the skills he /she has acquired for the song of a genre.
- Perform exercises and technical pieces well, because of the lessons in musicianship.
- Develop skills that prepare them for careers in musical performance and private teaching.

CO 49: *MUPF 478 External Performance - Piano*

- Acquire the ability to perform with a stable pulse and with an accurate technique
- Have the ability to control the instrument effectively
- Interpret music in a way that conveys a sense of stylistic understanding.
- Develop critical thinking about music.
- Demonstrate proficiency in performance in Piano.
- Perform pieces in an array of genres.

CO 50: *MUED 481 Music In The Elementary School*

- Know the Value of music in the lives of children.
- Understand that the characteristics of children at various age groups are important in order to plan activities in the music education program.
- Identify the kind of experiences and learning that should be provided for children in the elementary school
- Be able to actively promote the proper role of music in the curriculum and in the lives of the children.

CO 51: *MUCM 482 Church Music*

- Able to understand the potential of music as an expression of worship.
- Be acquainted with the vast literature of Church music.
- Be able to distinguish the difference between secular and sacred music.
- Be equipped with the knowledge necessary for him to efficient and effective function as a musician in his church.
- Be aware of the challenges faced by the church in its practice from early Christian times to the present time.

CO 52: *MUCT 483 Counterpoint*

- To acquaint the students with the natural tendencies of various scale degrees.
- To know when to use stepwise progression and when to use leaps when writing a melody.
- To learn to use the melodic minor scale correctly in melody writing
- To study examples from the masters and learn to add a counterpoint above a given melody and then invert it.

CO 53: *MUED 485- Project in Music*

- Do a research on related topics
- Participate in the thrill of discovering new knowledge and the engaging scholarly process.
- Gain familiarity with a range of different musical practices and traditions of western music.
- Develop critical thinking about cultural, historical and cognitive dimensions of music.
- Apply the information learned in music history and music literature classes.

CO 54: *MUPF 486 Senior Recital- Piano*

- Mastery of various techniques: Dynamics, phrasing, pedaling, articulation and tempo, rubato
- Develop stage poise and expression.
- Acquire higher performance aspirations
- Develop sensitivity to musical and artistic expression.
- Gain the experience and knowledge skills from different musical styles and genres.

CO 55: *MUPF 487 Senior Recital- Voice*

- Gain confidence to sing in public and acquire stage presence.
- Express the meaning of the words through facial expression and tone of voice
- Develops musicianship and maturity in singing. It prepares students for a possible musical career in singing.
- Develop sensitivity to musical and artistic expression.

- Gain the experience and knowledge skills from different musical styles and genres

Click Here to view Course structure and Syllabus

V. DIVISION OF SCIENCES

Under Graduate

(Duration for all UG programs: 3 Years)

1. B Sc. Biotechnology (Honours)

Program Outcome

A candidate who is conferred a B.Sc. (Hons) degree in Biotechnology needs to have acquired/developed the following competencies during the program of the study:

PO 1: Demonstrate and apply their knowledge of cell biology, biochemistry, microbiology and molecular biology to solve the problems related to the field of biotechnology.
PO 2: Acquire knowledge and understanding of Biotechnology concepts in the various fields of medicine, industry, environment, genetics, agriculture etc.
PO 3: Demonstrate key practical skills in the use of microbiological and biotechnological instruments and the different techniques. Explain and properly apply the scientific method by developing valid hypotheses, designing experiments, gathering relevant data using current technology, and interpreting quantitative and qualitative data.
PO 4: Gain knowledge in animal and plant biotechnology and their applications
PO 5: Develop an ability to solve, analyze and interpret data generated from experiments done in project work or practical courses.
PO 6: Developed a broader perspective of the discipline of Microbiology to enable him to identify challenging societal problems and plan his professional career to develop innovative solutions for such problems.

Program Specific Outcome

PSO 1: *Critical thinking, Analysis and Problem Solving*: Demonstrate proficiency in quantitative reasoning (critical thinking) and analytical skills. Also, be able to use these skills to analyze and solve industry related problems, thus preparing them for a successful career in industry and research institutes.
PSO 2: *Understanding the need for sustainable solutions:* Be able to understand the need and impact of biotechnological solutions on environment and societal context, keeping in view the need for sustainable solutions.
PSO 3: *Development of practical skills*: Equipped with practical skills and the ability to apply their theoretical concepts to design, perform experiments, analyze and interpret data and thus develop proficiency in laboratory management.
PSO 4: *Developing an inclination towards research*: Develop an inclination towards research through the compulsory internship in industry/research/academic institutes which promote and inculcate professional ethics and code of practice among students, enabling them to work in a team with a multidisciplinary approach.
PSO 5: The final year students are encouraged to present their project finding in State/ National/ International level Seminars/ Conferences which help them develop self-confidence, presentation skills and they also get an opportunity to experience and learn the recent developments in the field of Biotechnology

Course Outcomes

CO 1: *BIOT 111/112: Biochemistry & Metabolism and Practicals*

- Understand about the importance and scope of biochemistry.
- Understand the structure and biological significance of carbohydrates, amino acids, proteins, lipids and nucleic acids.
- Understand the structure and function of immunoglobulins.
- Understand the concept of enzyme, its mechanism of action and regulation.
- Understand the process of DNA replication, transcription and translation.
- Learn the preparation of models of peptides and nucleotides.
- Learn biochemical tests for amino acids, carbohydrates, proteins and nucleic acids.
- Learn measurement of enzyme activity and its kinetics.

CO 2: *BIOT 113/114: Cell Biology and Practicals*

- Understand the functioning of nucleus and extra nuclear organelles and understand the intricate cellular mechanisms involved.
- Acquire the detailed knowledge of different pathways related to cell signaling and apoptosis thus enabling them to understand the anomalies in cancer.
- Develop an understanding how cells work in healthy and diseased states and to give a 'health forecast' by analyzing the genetic database and cell information.

CO 3: *BIOT 121/122: Mammalian Physiology and Practicals*

- Understand the physiology at cellular and system levels.
- Understand the mechanism and regulation of breathing, oxygen consumption and determination of respiratory quotient.
- Understand how mammalian body gets nutrition from different biomolecules.
- Understand the process of digestion and excretion.
- Understand the organization of nervous system and process of nerve conduction.
- Understand the process of vision and hearing.
- Understand the process of muscle contraction.
- Learn the determination of hemoglobin content, blood groups and blood pressure

CO 4: *BIOT 123/124: Plant Physiology and Practicals*

- Understand Water relation of plants with respect to various physiological processes.
- Explain chemical properties and deficiency symptoms in plants
- Classify aerobic and anaerobic respiration
- Explain the significance of Photosynthesis and respiration
- Assess dormancy and germination in plants

CO 5: *BIOT 211/212: Genetics and Practicals*

- Understand how DNA encodes genetic information and the function of mRNA and tRNA
- Apply the principles of Mendelian inheritance.
- Understand the cause and effect of alterations in chromosome number and structure.
- Relate the conventional and molecular methods for gene manipulation in other biological systems.
- Discuss and analyse the epigenetic modifications and imprinting and its role in diseases.
- Get new avenues of joining research in related areas such as genetic engineering of cells, cloning, genetic disorders, human fertility programme, genotoxicity, etc

CO 6: *BIOT 213/214: General Microbiology and Practicals*

- Have developed a good knowledge of the development of the discipline of Microbiology and the contributions made by prominent scientists in this field.
- Have developed a very good understanding of the characteristics of different types of microorganisms, methods to organize/classify these into and basic tools to study these in the laboratory.
- Describe the nutritional requirements of bacteria for growth; developed knowledge and understanding that besides common bacteria there are several other microbes which grow under extreme environments.
- Describe the growth characteristics of the microorganisms which require different nutrient for growth and the associated mechanisms of energy generation for their survival like autotrophs, heterotrophs, chemolithoautotrophs etc.
- Differentiate concepts of aerobic and anaerobic respiration and how these are manifested in the form of different metabolic pathways in microorganisms.
- Practical understanding of staining, preparation of media, isolation and identification of microorganism, and factors affecting the growth of microorganisms.

CO 7: *BIOT 215/216: Chemistry I and Practicals*

- To predict the atomic structure, chemical bonding, and molecular geometry based on accepted models.
- Physical and chemical characteristics of elements in various groups and periods according to ionic size, charge, etc. and position in periodic table.
- Characterize bonding between atoms, molecules, interaction and energetics (ii) hybridization and shapes of atomic, molecular orbitals, bond parameters, bond-distances and energies.
- Importance of hydrogen bonding, metallic bonding.
- Familiarization with various states of matter.
- Physical properties of each state of matter and laws related to describe the states.
- Behavior of real gases, its deviation from ideal behavior, equation of state, isotherm, and law of corresponding states.
- Liquid state and its physical properties related to temperature and pressure variation.
- Solids, lattice parameters – its calculation, application of symmetry, solid characteristics of simple salts.
- Basic of organic molecules, structure, bonding, reactivity and reaction mechanisms.
- Stereochemistry of organic molecules – conformation and configuration, asymmetric molecules and nomenclature.

CO 8: *BIOT 221/222: Molecular Biology and Practicals*

- Develop an understanding of concepts, mechanisms and evolutionary significance and relevance of molecular biology in the current scenario.
- Get well versed in recombinant DNA technology, which holds application in biomedical & genomic science, agriculture, environment management, etc. Therefore, a fundamental understanding of Molecular Biology will help in career building in all these fields.
- Gain an understanding of various steps in transcription, protein synthesis and protein modification.
- Apply their knowledge in problem solving and future course of their career development in higher education and research.
- Get new avenues of joining research in related areas such as therapeutic strategies or related opportunities in industry.

CO 9: *BIOT 223/224: Immunology and Practicals*

- Know how resistance development and resistance transfer occur.
- Identify the major cellular and tissue components which comprise the innate and adaptive immune system.
- Understand how are immune responses by CD4 and CD8 T cells, and B cells, initiated and regulated.
- Understand how the immune system distinguishes self from non-self.
- Conceptualize the protective role of the immune system of the host and developed an understanding of the basic components as well as the mechanisms underlying the immune system and its response to pathogenic microorganisms.

CO 10: *BIOT 225/226: Chemistry II and Practicals*

- Oxidation-Reductions and their use in metallurgy.
- Electrolytes and electrolytic dissociation, salt hydrolysis and acid-base equilibria.
- Ionic equilibria – electrolyte, ionization, dissociation.
- Laws of thermodynamics and concepts.
- Understanding the concept of system, variables, heat, work, and laws of thermodynamics.
- Understanding the concept of entropy; reversible, irreversible processes. Calculation of entropy using 3nd law of thermodynamics.
- Familiarization about classes of organic compounds and their methods of preparation.
- Basic uses of reaction mechanisms.
- Name reactions, uses of various reagents and the mechanism of their action.
- Preparation and uses of various classes of organic compounds.
- Organometallic compounds and their uses.
- Organic chemistry reactions and reaction mechanisms.

CO 11: *BIOT 311/312: Bioprocess Technology and Practicals*

- Capable of describing a large number of substrate that are used for the industrial fermentation processes.
- Have developed an understanding of different types of reactors or fermenters which are used for laboratory, pilot and industrial scale fermentations and their processes parameters.
- Have acquired a detailed knowledge of number of products which are produced by industrial fermentation processes.

CO 12: *BIOT 313/314: Recombinant DNA Technology and Practicals*

- Develop an understanding of the fundamental molecular tools and their applications of DNA modification and cloning.
- Illustrate creative use of modern tools and techniques for manipulation and analysis of genomic sequence
- Develop future course of their career development in higher education and research with a sound base.
- Apply their knowledge with problem solving approach to recommend strategies of genetic engineering for possible applications in Biotechnology and allied industry.

CO 13: *BIOT 321/322: Bio Analytical Tools and Practicals*

- Develop an understanding of the principles and working of different types of microscopes
- Understand the purpose of the technique, its proper use and possible modifications/ improvement.
- Develop an understanding of different types of chromatography techniques.
- Learn the theoretical basis of technique, its principle of working and its correct

CO 14: *BIOT 323/324: Genomics and Proteomics and Practicals*

- Have developed basic ideas on genomics and proteomics
- Explain some of the current genomics technologies and illustrate how these can be used to study gene function.
- Obtain and analyse information and data relating to specific genes using general and plant-specific databases, proteomics and metabolomics online portals, next generation sequencing tools and next generation mapping portals.

CO 15: *BIOT 315 (A)/316 (A): Plant Diversity I and Practicals*

- Ability to characterize and classify algae, fungi, lichens and bryophytes
- Develop an understanding of the economic importance of algae, fungi, lichens, and bryophytes
- Examine the morphology and life-cycles of plants groups algae, fungi, lichens, and bryophytes
- Understand the different types of plant diseases, the organisms causing the diseases and the various methods to prevent it.

CO 16: ***BIOT 315 (B)/316 (B): Plant Biotechnology and Practicals***

- Understand the core concepts and fundamentals of plant biotechnology
- Develop their competency on different types of plant tissue culture
- Develop an understanding on different plant growth promoting bacteria

CO 17: *BIOT 315 (C)/316 (C): Medical Microbiology and Practicals*

- Understand the basic and general concepts of causation of disease by the pathogenic microorganisms and the various parameters of assessment of their severity including the broad categorization of the methods of diagnosis.
- Develop a thorough understanding of common bacterial, viral, fungal, parasitic diseases of human being.

CO 18: *BIOT 317 (A): Animal Diversity I and Practicals*

- Develop understanding on the diversity of life with regard to non-chordates.
- Group animals on the basis of their morphological characteristics/ structures.

CO 19: *BIOT 317 (B)/318 (B): Bioinformatics and Practicals*

- Develop skills to use computers for analysis of biological data.
- Skill to use important biological databases, use tools to retrieve data, and compare the data of the biological macromolecules
- Develop basic skills for data retrieval, representation, analysis and interpretation

CO 20: *BIOT 317 (C)/318 (C): Environmental Biotechnology and Practicals*

- Understand the concept of fuel and its impact on environment.
- Develop skills on the remediation process of contaminated soils and water.
- Develop an understanding of the treatment of municipal waste and industrial effluents.
- Understand the role and significance of GMOs in the environment.

CO 21: *BIOT 325 (A)/326 (A): Plant Diversity II and Practicals*

- Demonstrate an understanding of Pteridophytes and Gymnosperms
- Develop critical understanding on morphology, anatomy and reproduction of Pteridophytes and Gymnosperms
- Demonstrate proficiency in the experimental techniques and methods of appropriate analysis of Pteridophytes, Gymnosperms

CO 22: *BIOT 325 (B)/326 (B): Animal Biotechnology and Practicals*

- Develop an understanding of the fundamental molecular tools and their applications of DNA modification and cloning.

- Appreciate shifting their orientation of learning from a descriptive explanation of biology to a unique style of learning through graphic designs and quantitative parameters to realize how such research and innovations have made science interdisciplinary and applied.
- Develop future course of their career development in higher education and research with a sound base.
- Apply their knowledge with problem solving approach to recommend strategies of genetic engineering for possible applications in Biotechnology and allied industry.

CO 23: *BIOT 325 (C)/326 (C): Microbial Physiology and Practicals*

- Develop an ability to classify microorganisms based on their nutritional requirements.
- Describing the growth characteristics of the microorganisms capable of growing under unusual environmental condition of temperature, oxygen, and solute and water activity.
- Describing the growth characteristics of the microorganisms which require different nutrient for growth and the associated mechanisms of energy generation for their survival like autotrophs, heterotrophs, chemolithoautotrophs etc.
- Differentiating concepts of aerobic and anaerobic respiration and how these are manifested in the form of different metabolic pathways in microorganisms

CO 24: *BIOT 327 (A)/328 (A): Animal Diversity II and Practicals*

- Group animals on the basis of their morphological characteristics/ structures.

CO 25: *BIOT 327 (B)/328 (B): Biostatistics and Practicals*

- Comprehend the fundamental concepts related to descriptive and inferential biostatistics.
- Develop skills in data tabulation, its treatment, analysis, interpretation and graphical representation of data.
- Analyze the implications of inferential statistics in biology.
- Develop their competence in hypothesis testing and interpretation.

CO 26: *BIOT 327 (C)/328 (C): Developmental Biology and Practicals*

- Develop critical understanding how a single-celled fertilized egg becomes an embryo and then a fully formed adult by going through three important processes of cell division, cell differentiation and morphogenesis.
- Understand how developmental processes and gene functions within a particular tissue or organism can provide insight into functions of other tissues and organisms.
- Realize that very similar mechanisms are used in very diverse organisms; and development is controlled through molecular changes resulting in variation in the expression and function of gene networks.

CO 27: *BIOT 217 (A)/218 (A): Enzymology and Practicals*

- Have acquired knowledge how microbes serve as a source for a large number of enzymes
- How these enzymes are produced in the laboratory, how their production is increased by different conditions and how the enzymes are purified.
- Practical skill for production and purification of enzymes; factors affecting microbial enzyme production; immobilization of enzymes.

CO 28: *BIOT 217 (B)/218 (B): Food Fermentation Technology and Practicals*

- Have developed a very good understanding of practical aspects commercially produced food and fermentative products.
- Have developed a very good understanding of practical use of microbiology for better production of home based food and fermentation products for day to day use.

CO 29: *BIOT 217 (C)/218 (C): Basics of Forensic Science and Practicals*

- Demonstrate knowledge and understanding of some of the basic facts of forensic science
- Demonstrate knowledge and understanding of some of the basic facts, language, concepts and principles relating to the principles and significance of fingerprint matching
- Demonstrate competency in the collection, processing, analyses, and evaluation of evidence.
- Demonstrate an understanding of the scientific method and the use of problem-solving within the field of forensic science.
- Demonstrate the ability to document and orally describe crime scenes, physical evidence, and scientific processes.
- Identify and examine current and emerging concepts and practices within the forensic science field.
- Develop an appreciation of scientific and social environment of the criminal justice system

CO 30: *BIOT 227 (A)/228 (A): Molecular Diagnostics and Practicals*

- Learn the principles of Molecular Diagnosis, which is the process of identifying a disease by studying molecules, such as proteins, DNA, and RNA, in a tissue or fluid.
- Learn details about different techniques involved in diagnostics including PCR, RFLP, Immunoassays, GLC, HPLC

CO 31: *BIOT 227 (B)/228 (B): Microbial analysis of Air & Water and Practicals*

- Have developed a very good understanding and skills to analyze air, water and soil.
- Have developed a very good understanding of how analysis of water, air and soil contribute to control of environmental pollution.

CO 32: *BIOT 227 (C)/228 (C): Biofertilizers and Biopesticides and Practicals*

- Have developed a very good understanding of practical aspects of production of biofertilizers.
- Have developed a very good understanding of practical aspects of the production of biopesticides/bioinsecticides.

CO 33: *BIOT 115: Biotechnology & Human Welfare*

- Develop an understanding of the role of biotechnology in industry, agriculture, environment, and forensic science.

CO 34: *BIOT 219: Intellectual Property Rights, Bioethics & Biosafety*

- Attain basic knowledge on intellectual property rights and their implications in biological research and product development;
- Become familiar with India's IPR Policy;
- Learn biosafety and risk assessment of products derived from biotechnology and regulation of such products;
- Familiarize with ethical issues in biological research

CO 35: *BIOT 229: Philosophy of Science*

- Develop an understanding of both biblical and scientific evidence on origins.
- Understand that rational, philosophical, and theological insights is a basis for arriving at a comprehensive understanding of the origins of all things.
- Explore the history of life on earth from the beginning through Genesis while analyzing different sides of scientific arguments.

Click here to view Course Structure and Syllabus

2. B Sc. Botany (Honours)

Program Outcome

The student graduating with the Degree B.Sc (Honours) Botany should be able to acquire:

PO 1: Core Competence

- 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.
- The understanding of networked life on earth and tracing the energy pyramids through nutrient flow is expected from the students.
- 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.

PO 2: Critical Thinking and problem-solving ability

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.

PO 3: Digitally equipped

Students will acquire digital skills and integrate the fundamental concepts with modern tools.

PO 4: Ethical and Psychological strength

Students will also strengthen their ethical and moral values and shall be able to deal with psychological weaknesses. They are expected to define their core ethical virtues good enough to distinguish what construes as illegal and criminal under Indian constitution. Learners should know academic and research ethics, Benefit Sharing, Plagiarism, Scientific Misconduct etc.

PO 5: Team Player

Students will learn team workmanship in order to serve efficiently institutions, industry and society.

PO 6 : Independent Learner

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 examinations and employment. Learning outcome-based curriculum would ensure equal academic standards across the country and broader picture of their competencies.

PO 7: Reflective thinking

The structure and content of the course enables students to reflect on the learnings from different courses and integrate the same for a problem-solving approach. They would be capable of correlating various concepts applicable to diverse situations and phenomenon.

PO 8: Multicultural competence

Understanding of various analytical techniques of plant sciences, use of plants as industrial resources or as human livelihood support system and is well versed with the use of transgenic technologies for basic and applied research in plants.

PO 9: Lifelong learning

The subject of botany the applied theoretically and practically applied in day today life. The successful students will be able to learn the basic concepts, principles and processes in plant biology. The have the ability of explanation of concepts, principles and usage of the acquired knowledge in biotechnological, pharmaceutical, medical, ecological and agricultural applications. Use basic biology techniques to explore molecular biology of plants

PO 10: Self-directed learning

The programme also has a strong interdisciplinary component. Emphasis is on experiential learning through hands-on laboratory exercises, field trips and assignments. Current thrust areas of teaching provide students with substantial exposure and skills in plant biology.

PO 11: Communication Skills

The students will develop a confidence on gaining the knowledge and skill after this course and they will be able to effectively communicate their views, present their work and impress the audience. Students are expected to possess a standard of communication skills expected from a science graduate in the country. They are expected to read and understand documents with in depth analyses and logical arguments. Graduates are expected to be well-versed in speaking and communicating their idea/finding/concepts to a wider audience

PO 12: Research-related skills

This course provides wide interdisciplinary knowledge and stimulates the students to think beyond the course knowledge, apply this knowledge for solving the environmental problems, efficient use of resources by designing novel and innovative experiments. Students are expected to be aware about activities in the natural surroundings to awaken their curiosity. They are expected to design a scientific experiment through statistical hypothesis testing and reasoning.

PO 13: Leadership readiness/qualities

The vast and deep knowledge of the subject, analytical and scientific reasoning, effective communication and problem-solving task develop special qualities in a person to attract and influence the audience, which would be gained after the completion of this course. Students are expected to be familiar with decision making process and basic managerial skills to become a better leader. Skills may include defining objective vision and mission, how to become responsible citizens and charismatic inspiring leader.

Program Specific Outcome

The course learning outcomes are aligned with program learning outcomes but these are specific to specific courses offered in a program. The course level learning shall be reflected as program level learning. The core courses shall be the backbone of this framework whereas discipline electives, generic electives and skill enhancement courses would add academic excellence in the subject together with multi-dimensional and multidisciplinary approach.

In brief the student graduated with this type of curriculum would be able to disseminate subject knowledge along with necessary skills to suffice their capabilities for academia, entrepreneurship and Industry.

PSO 1: Understanding of plant classification systematics, evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology, anatomy, reproduction, genetics and molecular biology of various life-forms.
PSO 2: Understanding of various analytical techniques of plant sciences, use of plants as industrial resources or as human livelihood support system and is well versed with the use of transgenic technologies for basic and applied research in plants.
PSO 3: Understanding of various life forms of plants, morphology, anatomy, reproduction, genetics, microbiology, molecular biology, recombinant DNA technology, transgenic technology and use of bioinformatics tools and databases and the application of statistics to biological data.

Course Outcome

CO 1: BOTA 111/112 Phycology and Microbiology and Practicals

Develop understanding on the concept of microbial nutrition

Classify viruses based on their characteristics and structures

Develop critical understanding of plant diseases and their remediation.

Examine the general characteristics of bacteria and their cell reproduction/ recombination

increase the awareness and appreciation of human friendly viruses, bacteria, algae and their economic importance

Conduct experiments using skills appropriate to subdivisions

Identify types of viruses, bacteria and algae.

CO 2: BOTA 113/114: Biomolecules and Cell Biology and Practicals

Develop understanding on chemical bonding among molecules

Identify the concept that explains chemical composition and structure of cell wall and membrane

Classify the enzymes and explain mechanism of action and structure

Compare the structure and function of cells & explain the development of cells

Describe the relationship between the structure and function of biomolecules

CO 3: BOTA 121/122: Mycology and Phytopathology and Practicals

Identify true fungi and demonstrate the principles and application of plant pathology in the control of plant disease.

Develop an understanding of microbes, fungi and lichens and

Appreciate their adaptive strategies.

Demonstrate skills in laboratory, field and glasshouse work related to mycology and plant pathology.

Identify the common plant diseases according to geographical locations and device control measures

CO 4: BOTA 123/124: Archegoniatae: Bryophytes, Pteridophytes, and Gymnosperms and Practicals

Demonstrate an understanding of archegoniatae, Bryophytes, Pteridophytes and Gymnosperms

Develop critical understanding on morphology, anatomy and reproduction of Bryophytes, Pteridophytes and Gymnosperms

Identify Bryophytes, Pteridophytes and Gymnosperms

Demonstrate proficiency in the experimental techniques and methods of appropriate analysis of Bryophytes, Pteridophytes, Gymnosperms

Understand different stages in life cycle of Bryophytes, Pteridophytes and Gymnosperms

CO 5: BOTA 211/212: Anatomy of Angiosperms and Practicals

Develop an understanding of concepts and fundamentals of plant anatomy

Develop critical understanding of concept of organization of shoot and root apex.

Evaluate the adaptive and protective systems of plants

Examine the internal anatomy of plant systems and organs

Analyze the composition of different parts of plants and their relationships

CO 6: BOTA 213/214 Economic Botany and Plant Resource Utilization and Practicals

Understand core concepts of Economic Botany and relate with environment, populations, communities, and ecosystems

Develop critical understanding of concept of organization of apex new crops/varieties, importance of germplasm diversity, issues related to access and ownership

Develop a basic knowledge of taxonomic diversity and important families of useful plants

Increase the awareness and appreciation of plants & plant products encountered in everyday life

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

CO 7: BOTA 215/216: Genetics and Cytogenetics and Practicals

Have conceptual understanding of laws of inheritance, genetic basis of loci and alleles and their linkage.

Comprehend the effect of chromosomal abnormalities in numerical as well as structural changes leading to genetic disorders.

Develop critical understanding of chemical basis of genes and their interactions at population and evolutionary levels.

Analyze the effect of mutations on gene functions and dosage.

Examine the structure, function and replication of DNA.

CO 8: BOTA 221/222 Molecular Biology and Practicals

Analyze the structures and chemical properties of DNA and RNA through various historic experiments.

Differentiate the main types of prokaryotes through their grouping abilities and their characteristic

Analyse the structures and chemical properties of DNA and RNA through various historic experiments.

Differentiate the main types of prokaryotes through their grouping abilities and their characteristic

CO 9: BOTA 223 Plant Ecology and Phytogeography and Practicals

Understand core concepts of biotic and abiotic

Classify the soils on the basis of physical, chemical and biological components

Analysis the phytogeography or phytogeographical division of India

Evaluate energy sources of ecological system

Assess the adaptation of plants in relation to light, temperature, water, wind and fire.

Assess the adaptation of plants in relation to light, temperature, water, wind and fire.

Easily operate instruments used in ecological studies.

Understand ecology of different sites.

Conduct experiments using skills appropriate to subdivisions

CO 10: BOTA 225/226: Plant Systematics and Practicals

Classify Plant systematics and recognize the importance of herbarium and Virtual herbarium

Evaluate the Important herbaria and botanical gardens

Interpret the rules of ICN in botanical nomenclature

Assess terms and concepts related to Phylogenetic Systematics

Generalize the characters of the families according to Bentham & Hooker's system of classification

CO 11: BOTA 311/312: Reproductive Biology of Angiosperms and Practicals

Understand different reproductive stages of angiosperms

Understand different structures related to reproduction

Well acquainted with process of fertilization.

Identify types of ovules and better understanding of pollen biology, self -incompatibility and embryogenesis

Understand reproductive stages of angiosperms

Identify types of ovules and have better understanding of pollen biology, self-incompatibility and embryogenesis

CO 12: BOTA 313/314: Plant Physiology and Practicals

Understand Water relation of plants with respect to various physiological processes.

Explain chemical properties and deficiency symptoms in plants

Classify aerobic and anaerobic respiration

Explain the significance of Photosynthesis and respiration

Assess dormancy and germination in plants

CO 13: BOTA 321/322: Plant Metabolism and Practicals

Differentiate anabolic and catabolic pathways of metabolism

Recognize the importance of Carbon assimilation in photorespiration

Explain the ATP-Synthesis

Interpret the Biological nitrogen fixation in metabolism

Differentiate photosynthesis and respiration

Recognize and understand the importance of photosynthesis and respiration

CO 14: BOTA 323/324: Plant Biotechnology & Genetic Engineering and Practicals

Understand plant tissue culture and Recombinant DNA technology.

Differentiate vectors and better understanding of gene cloning, gene transfer.

Understand concepts and process of cryopreservation.

Recognize the applications of biotechnology

Equipped with media preparation and sterilization technique

Understanding of isolation of protoplasts and plasmid DNA.

Understanding on types of explants used in tissue culture.

Appreciate and value the knowledge of biotechnology

CO 15: BOTA 217(A)/218 (A) Nursery & Gardening and Practicals

Understand the process of sowing seeds in nursery

List the various resources required for the development of nursery

Distinguish among the different forms of sowing and growing plants

Analyze the process of Vegetative propagation

Appreciate the diversity of plants and selection of gardening

Examine the cultivation of different vegetables and growth of plants in nursery and gardening

Apply the basic principles and components of gardening

Design nursery and manage nursery

Conceptualize flower arrangement and bio-aesthetic planning

CO 16: BOTA 227 (A)/ 228 (A) Herbal Technology and Practicals

Develop their understanding on Herbal Technology

Define and describe the principle of cultivation of herbal products.

List the major herbs, their botanical name and chemical constituents.

Evaluate the drug adulteration through the biological testing

Develop the skills for cultivation of plants and their value-added processing / storage / quality control

Develop their understanding on phytochemical analysis of medicinal plants

Perform DCPIP test for antioxidants

Develop skills for tissue culture and micropropagation techniques

CO 17: BOTA 227 (B)/ 228 (B) Floriculture and Practicals

Develop conceptual understanding of gardening from historical perspective

Analyze various nursery management practices with routine garden operations.

Distinguish among the various Ornamental Plants and their cultivation

Evaluate garden designs of different countries

Appraise the landscaping of public and commercial places for floriculture.

Diagnoses the various diseases and uses of pests for ornamental plants.

Develop skills for cultivation of flowering, cacti and hedge plants.

Distinguish and design different types of flower arrangement

Prepare various designs for rangoli

Prepare beds for growing herbs and shrubs

CO 18: BOTA 315 (A)/316 (A): Medicinal Botany and Practicals

Recognize the basic medicinal plants

Apply techniques of conservation and propagation of medicinal plants.

Setup process of harvesting, drying and storage of medicinal herbs

Propose new strategies to enhance growth of medicinal herbs considering the practical issues pertinent to India

CO 19: BOTA 317 (A)/ 318 (A)/ Analytical Techniques in Plant Sciences and Practicals

Develop conceptual understanding of cell wall degradation enzymes and cell fractionation.

Classify different types of chromatography techniques.

Explain the principles of Light microscopy, compound microscopy, Fluorescence microscopy and confocal microscopy

Apply suitable strategies in data collections and disseminating research findings.

CO 20: BOTA 325 (A)/326 (A): Plant Breeding and Practicals

Develop conceptual understanding of plant genetic resources, plant breeding, gene bank and gene pool.

Familiarize with genetic basis of heterosis.

Classify Sexual and Asexual modes of reproduction.

Explain monogenic and polygenic inheritance

Reflect upon the role of various non- conventional methods used in crop improvement.

CO 21: BOTA 327 (A)/328 (A): Industrial and Environmental Microbiology and Practicals

Understand the concept and role of microbes in industry and environment.

Critically analyze the types of bioreactors and the fermentation process.

Evaluate the role of microorganisms in industry and microbes in agriculture.

Develop skills on the remediation process of contaminated soils

Understand Principles and functioning of instruments in microbiology laboratory

Develop skills on sterilization techniques and preparation of culture media.

CO 22: BOTA 315 (B)/ 316 (B) Bioinformatics and Practicals

Understand the concept of databases and use of different public domain for DNA and proteins sequence retrieval.

Understand the concept of pairwise alignment of DNA sequences using algorithms.

Explain the structure of proteins homology modeling approach using SWISS MODEL and SWISS-PDB.

Reflect upon the role of various models in molecular evolution.

Analyze the role of (QSAR) techniques in Drug Design.

CO 23: BOTA 317 (B)/318 (B): Stress Biology and Practicals

Develop the understanding of concept of stress, stress factors and resistance mechanisms.

Explain different types of stress with examples.

Develop the ability for critical appraisal of various physiological mechanisms that protect the plant from environmental stress i.e. adaptation, avoidance and tolerance.

Analyze the role of production and scavenging mechanisms

CO 24: BOTA 325 (B)/ 326 (B) Biostatistics and Practicals

Comprehend the fundamental concepts related to descriptive and inferential biostatistics.

Develop skills in data tabulation, its treatment, analysis, interpretation and graphical representation of data.

Analyze the implications of inferential statistics in biology.

Develop their competence in hypothesis testing and interpretation.

CO 25: BOTA 327 (B)/328 (B): Horticulture and Practicals

Understand the different classifications of horticultural crops, nursery management, and use of technology in horticulture.

Develop their competency on pre and post-harvest technology in horticultural crops

Analyze the different methods of weed control and harvest treatments of horticultural crops

Examine the economic implications of cultivation of tropical and sub-tropical vegetable crops

Evaluate the importance of floriculture and contribution spices and condiments on economy

Click here to view Course Structure and Syllabus

3. B Sc. Computer Science (Honours)

Program Outcome

PO 1: The Bachelor of Science degree in Computer Science emphasizes problem solving in the context of algorithm development and software implementation and prepares students for effectively using modern computer systems in various applications.
PO 2: The curriculum provides required computer science courses such as programming languages, data structures, computer architecture and organization, algorithms, database systems, operating systems, and software engineering; as well as elective courses in artificial intelligence, computer-based communication networks, distributed computing, information security, graphics, human-computer interaction, multimedia, scientific computing, web technology, and other current topics in computer science.
PO 3: The main aim of this Bachelor's degree is to deliver a modern curriculum that will equip graduates with strong theoretical and practical backgrounds to enable them to excel in the workplace and to be lifelong learners.
PO 4: To prepare the student for a position involving the design, development and implementation of computer software/hardware, and
PO 5: To prepare the student for entry into a program of postgraduate study in computer science/engineering and related fields**.**

Program Specific Outcomes
PSO 1: To develop an understanding and knowledge of the basic theory of Computer Science and Information Technology with good foundation on theory, systems and applications such as algorithms, data structures, data handling, data communication and computation and use this knowledge to analyse new situations.
PSO 2: The ability to synthesize the acquired knowledge, understanding and experience for a better and improved comprehension of the real-life problems and the ability to formulate, model and design solutions, procedures and use software tools to solve them.
PSO 3: To work independently on a substantial software project and as an effective team member.
PSO 4: Ability to operate, manage, deploy, configure computer network, hardware, software operation of an organization
PSO 5: To acquire necessary and state-of-the-art skills to take up industry challenges and become acquainted with the contemporary trends in industrial/research settings and thereby innovate novel solutions to existing problems
PSO 6: To learn skills and tools like mathematics, statistics, physics and electronics to find the solution, interpret the results and make predictions for the future developments

Course Outcomes
CO 1: *COMS 111/112 Programming Methodology & Practicals*

- Learn to develop simple algorithms and flow charts to solve a problem.
- Develop problem solving skills coupled with top down design principles.
- Learn about the strategies of writing efficient and well-structured computer algorithms/programs.
- Develop the skills for formbulating iterative solutions to a problem.
- Learn array processing algorithms coupled with iterative methods.
- Learn text and string processing efficient algorithms.
- Learn searching techniques and use of pointers.
- Understand recursive techniques in programming.

CO 2: *COMS 113/114 Computer System Architecture & Practicals*

- To make students understand the basic structure, operation and characteristics of digital computer.
- To familiarize the students with arithmetic and logic unit as well as the concept of the concept of pipelining.
- To familiarize the students with hierarchical memory system including cache memories and virtual memory.
- To make students know the different ways of communicating with I/O devices and standard I/O interfaces.

CO 3: *COMS 121/122 Data Structures & Practicals*

- To be familiar with fundamental data structures and with the manner in which these data structures can best be implemented; become accustomed to the description of algorithms in both functional and procedural styles
- To have a knowledge of complexity of basic operations like insert, delete, search on these data structures
- To be Able to choose a data structure to suitably model any data used in computer applications.
- To Design programs using various data structures including hash tables, Binary and general search trees, heaaps, graphs etc.
- To be Able to assess efficiency trade-offs among different data structure implementations.
- To Implement and know the applications of algorithms for sorting, pattern matching etc.

CO 4: *COMS 123 Discrete Structures*

- To understand the notion of mathematical thinking, mathematical proofs, and algorithmic thinking, and be able to apply them in problem solving.
- To Understand the basics of combinatorics, and be able to apply the methods from these subjects in problem solving.
- To Be able to use effectively algebraic techniques to analyse basic discrete structures and algorithms.
- To Understand asymptotic notation, its significance, and be able to use it to analyse asymptotic performance for some basic algorithmic examples.
- To Understand some basic properties of graphs and related discrete structures, and be able to relate these to practical examples.

CO 5: *COMS 211/212 Algorithms & Practicals*

- To Learn good principles of algorithm design;
- To Learn how to analyse algorithms and estimate their worst-case and average-case behaviour (in easy cases);
- To become familiar with fundamental data structures and with the manner in which these data structures can best be implemented; become accustomed to the description of algorithms in both functional and procedural styles;
- To Learn how to apply their theoretical knowledge in practice (via the practical component of the course).

CO 6: *COMS 213/214 Operating System & Practicals*

- To Describe the important computer system resources and the role of operating system in their management policies and algorithms.
- To understand various functions, structures and history of operating systems and should be able to specify objectives of modern operating systems and describe how operating systems have evolved over time.

- To Understand the design issues associated with operating systems.
- Understanding various process management concepts including scheduling, synchronization, and deadlocks.
- To have a basic knowledge about multithreading.
- To understand concepts of memory management including virtual memory.
- To understand issues related to file system interface and implementation, disk management.
- To understand and identify potential threats to operating systems and the security features design to guard against them.
- To have sound knowledge of various types of operating systems including Unix and Android.
- To Describe the functions of a contemporary operating system with respect to convenience, efficiency, and the ability to evolve.

CO 7: *COMS 215 /216 Computer Networks & Practicals*

- To Understand the structure of Data Communications System and its components. Be familiarize with different network terminologies.
- To Familiarize with contemporary issues in network technologies.
- To Know the layered model approach explained in OSI and TCP/IP network models
- To Identify different types of network devices and their functions within a network.
- To Learn basic routing mechanisms, IP addressing scheme and internetworking concepts.
- To Familiarize with IP and TCP Internet protocols.
- To understand major concepts involved in design of WAN, LAN and wireless networks.
- To Learn basics of network configuration and maintenance.
- To Know the fundamentals of network security issues.

CO 8: *COMS 221/222 Object Oriented Programming & Practicals*

- To Learn the concepts of data, abstraction and encapsulation
- To Be able to write programs using classes and objects, packages.
- To Understand conceptually principles of Inheritance and Polymorphism and their use and program level implementation.
- To Learn exception and basic event handling mechanisms in a program
- To Learn typical object-oriented constructs of specific object oriented programming language

CO 9: *COMS 223/224 Software Engineering & Practicals*

- To Gain Basic knowledge and understanding of the analysis and design of complex systems.
- To be Able to apply software engineering principles and techniques.
- To produce efficient, reliable, robust and cost-effective software solutions.
- To be Able to work as an effective member or leader of software engineering teams.
- To manage time, processes and resources effectively by prioritising competing demands to achieve personal and team goals Identify and analyzes the common threats in each domain.

CO 10: *COMS 225/226 Database Management Systems & Practicals*

- To Gain knowledge of database systems and database management systems

software.

- To be Able to model data in applications using conceptual modelling tools such as ER Diagrams and design data base schemas based on the model.
- To Formulate, using SQL, solutions to a broad range of query and data update problems.
- To Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database.
- Being acquainted with the basics of transaction processing and concurrency control.
- To be Familiar with database storage structures and access techniques.
- To Compare, contrast and analyse the various emerging technologies for database systems such as NoSQL.
- To Analyse strengths and weaknesses of the applications of database technologies to various subject areas.

CO 11: *COMS 311/312 Internet Technologies & Practicals*

- To understand the terms related to the Internet and how the Internet is changing the world.
- To understand how computers are connected to the Internet and demonstrate the ability to use the World Wide Web.
- To Demonstrate an understanding of and the ability to use electronic mail and other internet-based services
- To Understand the design principles of Web pages and how they are created
- To Develop an ability to create basic Web pages with HTML.

CO 12: *COMS 313 Artificial Intelligence*

- Explain what constitutes "Artificial" Intelligence and how to identify systems with Artificial Intelligence.
- Identify problems that are amenable to solution by AI methods, and which AI methods may be suited to solving a given problem.
- Formalise a given problem in the language/framework of different AI methods (e.g., as a search problem, as a constraint satisfaction problem, as a planning problem, etc).
- Implement basic AI algorithms (e.g., standard search or constraint propagation algorithms).
- Design and perform an empirical evaluation of different algorithms on a problem formalisation, and state the conclusions that the evaluation supports.
- Explain the limitations of current Artificial Intelligence techniques.

CO 13: *COMS 321 Machine Learning*

- To Differentiate between supervised, unsupervised machine Learn approaches
- To be Able to choose appropriate machine Learn algorithm for solving a problem
- To Design and adapt existing machine Learn algorithms to suit applications
- To Understand the underlying mathematical relationships across various machine Learn algorithms
- Design and implement machine Learn algorithms to real world applications

CO 14: *COMS 323/324 Computer Graphics & Practicals*

- To Acquire familiarity with the concepts and relevant mathematics of computer graphics.
- To be Able to implement various algorithms to scan, convert the basic geometrical primitives, transformations, area filling, clipping.

- To Describe the importance of viewing and projections.
- To be Able to design basic graphics application programs.
- To Familiarize with fundamentals of animation and Virtual reality technologies
- To be able to design applications that display graphic images to given specifications.
- To understand a typical graphics pipeline

CO 15: *COMS 314/315 System Security & Practicals*

- Develop an understanding of information assurance as practiced in computer operating systems, distributed systems, networks and representative applications.
- Gain familiarity with prevalent network and distributed system attacks, defenses against them, and forensics to investigate the aftermath.
- Develop a basic understanding of cryptography, how it has evolved, and some key encryption techniques used today.
- Develop an understanding of security policies (such as authentication, integrity and confidentiality), as well as protocols to implement such policies in the form of message exchanges

CO 16: *COMS 316/317 Data Analytics & Practicals*

- To prepares students to gather, describe, and analyze data, and use advanced statistical tools to support decision making.
- To gather sufficient relevant data, conduct data analytics using scientific methods, and understand appropriate connections between quantitative analysis and real - world problems.
- To Understand the exact scopes and possible limitations of each method to provide constructive guidance in decision making.
- To Use advanced techniques to conduct thorough and insightful analysis,and interpret the results correctly with detailed and useful information.
- To make better decisions by using advanced techniques in data analytics.

CO 17: *COMS 325/326 Cloud Computing & Practicals*

- To Analyze the trade-offs between deploying applications in the cloud and the local infrastructure.
- To Compare the advantages and disadvantages of various cloud computing platforms.
- To Deploy applications over commercial cloud computing infrastructures such as Amazon Web Services, Windows Azure, and Google App Engine.
- To Program data intensive parallel applications in the cloud.
- To Analyze the performance, scalability, and availability of the underlying cloud technologies and software.
- To Identify security and privacy issues in cloud computing.
- To Explain recent research results in cloud computing and identify their pros and cons.
- To Solve a real-world problem using cloud computing through group collaboration

CO 18: *COMS 327/328: Data Mining & Practicals*

- To Demonstrate advanced knowledge of data mining concepts and techniques.
- To Apply the techniques of clustering, classification, association finding, feature selection and visualisation on real world data
- To Determine whether a real-world problem has a data mining solution
- To Apply data mining software and toolkits in a range of applications

- To Set up a data mining process for an application, including data preparation, modelling and evaluation
- To Demonstrate knowledge of the ethical considerations involved in data mining.

CO 19: *COMS 314 (B) Image Processing*

- To familiarize the students with the image fundamentals and mathematical transforms necessary for image processing.
- To make the students understand the image enhancement techniques
- To make the students understand the image restoration and reconstruction procedures.
- To familiarize the students with the image segmentation procedures.

CO 20: *COMS 316/317 (B): Python Programming & Practicals*

- To Develop and Execute simple Python programs.
- To Structure a Python program into functions.
- To Using Python lists, tuples to represent compound data
- To Develop Python Programs for file processing

CO 21: *COMS 325 (B): Modelling Ad Simulations*

- To Characterize systems in terms of their essential elements, purpose, parameters, constraints, performance requirements, sub-systems, interconnections and environmental context.
- To Understand the technical underpinning of modern computer simulation software.
- System problem modelling and solving through the relationship between theoretical, mathematical, and computational modelling for predicting and optimizing performance and objective.
- Mathematical modelling real world situations related to information systems To Development, prediction and evaluation of outcomes against design criteria.
- To Develop solutions and extract results from the information generated in the context of the information systems
- To Interpret the model and apply the results to resolve critical issues in a real-world environment.
- To Develop different models to suit special characteristics of the system being modelled.

CO 22: *COMS 327/328 (B): Mobile Application Development & Practicals*

- To understand Android platform and its architecture.
- To Learn about mobile devices types and different modern mobile operating systems.
- To Learn activity creation and Android User Interface designing.
- To Learn basics of Intent, Broadcast and Internet services.
- To Learn about different wireless mobile data transmission standards.
- To understand and Learn how to integrate basic phone features, multimedia, camera and Location based services in Android Application.
- To Learn about different systems for mobile application to development, deployment and distribution in Mobile market place (Android, IoS).
- To understand and carry out functional test strategies for mobile applications

CO 23: *COMS 217/218: Programming in Java & Practicals*

- To Gain Knowledge of the structure and model of the Java programming language,

- To Use Java programming language for various programming technologies
- To Develop software in the Java programming language
- To Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements

CO 24: *COMS 227/228: Web Programming & Practicals*

- To understand basics of the Internet and World Wide Web
- To acquire knowledge and skills for creation of web site considering both client and server-side programming
- To Learn basic skill to To Develop responsive web applications
- To understand different web extensions and web services standards
- To understand basic concepts of Search Engine Basics.
- To Learn Web Service Essentials.
- To Learn Rich Internet Application Technologies.
- To understand and get acquainted with Web Analytics 2.0

CO 25: *COMS 217 (B): Human Computer Interface*

- To Provide an overview of the concepts relating to the design of human - computer interfaces in ways making computer-based systems comprehensive, friendly and usable.
- To Understand the theoretical dimensions of human factors involved in the acceptance of computer interfaces.
- To Understand the important aspects of implementation of human-computer interfaces.
- To Identify the various tools and techniques for interface analysis, design, and evaluation.
- To Identify the impact of usable interfaces in the acceptance and performance utilization of information systems.

CO 26: *COMS 217/218 (C): Unix/Linux Programming & Practicals*

- Identifying and use of UNIX/Linux utilities to create and manage simple file processing operations, organize directory structures with appropriate security
- Developing Scripts and programs that will demonstrate simple effective user interfaces and effective use of structured programming.
- The Ability to read and understand specifications, scripts and programs.
- Monitoring the system performance and network activities.

CO 27: *COMS 217/218 (D): Matlab Programming & Practicals*

- To Understand the fundaments of procedural and functional programming;
- To Understand Matlab data types and structures;
- To Be able to set up simple real-life numerical problems such that they can be solved and visualized using basic codes in Matlab;
- To Be ready to use advanced coding in Matlab in their subsequent studies

CO 28: *COMS 227 (B): Internet of Things*

- To Learn the concepts of Sensors, Wireless Network and Internet
- To Learn and implement use of Devices in IoT technology.
- To Learn the different IoT Technologies like Micro-controller, Wireless communication like Blue Tooth, GPRS, Wi-Fi and Storage and embedded systems
- To understand how to program on embedded and mobile platforms including different Microcontrollers like ESP8266, Raspberry Pi, Arduino and Android programming
- To understand how to make sensor data available on the Internet (data acquisition)

and understand how to analyze and visualize sensor data
- To understand, analysis and evaluate different protocols used in IoT.
- To Learn basic python programming for IoT applications
- To Learn and design different applications in IoT.
- To design, To Develop and test different prototypes in IoT.

CO 29: *COMS 227/228 (C): Software Testing & Practicals*
- Develop Various test processes and continuous quality improvement
- Identifying Types of errors and fault models
- Methods of test generation from requirements
- Behavior modeling using UML: Finite state machines (FSM)
- Test generation from FSM models
- Input space modeling using combinatorial designs
- Combinatorial test generation
- Test adequacy assessment using: control flow, data flow, and program mutations
- The use of various test tools and application of software testing techniques in commercial environments

CO 30: *COMS 227/228 (D): R Programming & Practicals*
- Understand the basics in R programming in terms of constructs, control statements, string functions
- Understand the use of R for Big Data analytics
- Learn to apply R programming for Text processing
- Able to appreciate and apply the R programming from a statistical perspective

CO 31: *COMS 318 Seminar*
- Students will discuss recent and important results in the area of computer systems research.
- Guest Lectures by Academicians and Industry experts
- The seminar will also be cantered on presentations of the student's own research.
- It will increase students' familiarity with recent and important research results in computer systems; to improve students' skills in presenting computer systems research.

CO 32: *COMS 329 Project*
- Develop a project plan based on informal description of the project.
- Implement the project as a team.
- Write a report on the project work carried out by the team and defend the work done by the team collectively. Present the work done by the team to the evaluation committee.

CO 33: *AECC 121 Environmental Science*
- Identify environmental impacts on the universe and human beings.
- Understand key terms and definitions of pollution.
- Learn basic principles, key concepts and importance of environmental law.
- Understand business benefits of adopting an environmental management system.
- Identify key issues related to energy use and waste minimization, water use, pollution and emergency planning.
- Encourage and motivate others to practice stewardship, and preservation of the environment for the future generations.
- Maintain "Swatch Bharat" as a gift to the citizens of India.
- Appreciate nature and the Creature of the Universe

CO 34: *UC 2 (HLWL) Health & Wellness*

- Demonstrate an overall knowledge of personal wellness.
- Establish the behaviors associated with optimum health and wellness.
- Familiar risk factors and warning signs used in the prevention of disease.
- Identify basic nutritional principles.

Click here to view Course Structure and Syllabus

4. B Sc. Mathematics and Computer Application

Program Outcome

PO 1: Culmination of in-depth knowledge of algebra, calculus, geometry, differential equations and several other branches of mathematics with the study of related areas like computer science and statistics. Thus, this programme helps learners in building a solid foundation for higher studies in mathematics.
PO 1: Demonstrate the aptitude of Computer Programming and Computer based problem solving skills.
PO 2: The skills and knowledge gained has intrinsic beauty, which also leads to proficiency in analytical reasoning. This can be utilised in modelling and solving real life problems.
PO 3: Learn to logically question assertions, to recognise patterns and to distinguish between essential and irrelevant aspects of problems.
PO 4: Present mathematics clearly and precisely, make vague ideas precise by formulating them in the language of mathematics, describe mathematical ideas from multiple perspectives and explain fundamental concepts of mathematics to non-mathematicians.
PO 5: Ability to use mathematics as a precise language of communication in other branches of human knowledge.
PO 6: Enhance their employability for government jobs, jobs in banking, insurance and investment sectors, data analyst jobs and jobs in various other public and private enterprises.
PO 7: Ability to operate, manage, deploy, configure computer network, hardware, software operation of an organization.
PO 8: Display ethical code of conduct in usage of Internet and Cyber systems
PO 0: Ability to present results using different presentation tools.
PO 10: Design and develop computer programs/computer -based systems in the areas related to algorithms, networking, web design, cloud computing, IoT and data analytics.
PO 11: Acquaint with the contemporary trends in industrial/research settings and thereby innovate novel solutions to existing problems

Program Specific Outcomes

PSO 1: Demonstrate fundamental systematic knowledge of mathematics and its applications in engineering, science, technology and mathematical sciences.
PSO 2: It should also enhance the subject specific knowledge and help in creating jobs in various sectors.
PSO 3: apply knowledge, understanding and skills to identify the difficult/unsolved problems in mathematics and to collect the required information in possible range of sources and try to analyse and evaluate these problems using appropriate methodologies.
PSO 4: exhibit subject-specific transferable knowledge in mathematics relevant to job trends and employment opportunities.
PSO 5: Ability to identify unethical behaviour such as fabrication, falsification or misrepresentation of data and adopting objective, unbiased and truthful actions in all aspects
PSO 6: Ability to design, implement, and evaluate a computer-based system, process, component, or program to solve the given problem.
PSO 7: Demonstrate coherent knowledge and understanding of the logical organization of a digital computer, its components and working. Understanding of the time and space complexities of algorithms designed to solve computational problems.
PSO 8: Demonstrate programming skills in high level language and an ability to learn a new programming language without substantial effort.

PSO 9: Apply knowledge of logical skills to identify and analyse problems and issues, and seek solutions to real-life problems. For example, creating mobile applications, database applications, and educative computer games

Course Outcomes

CO 1: *MATC 111: Calculus*

- Calculate the limit and examine the continuity and understand the geometrical interpretation of differentiability.
- Understand the consequences of various mean value theorems.
- Draw curves in Cartesian and polar coordinate systems.
- Understand conceptual variations while advancing from one variable to several variables in calculus.
- Inter-relationship amongst the line integral, double and triple integral formulations.
- Realize importance of Green, Gauss and Stokes' theorems in other branches of mathematics.

CO 2: *MATC 121: Algebra*

- Employ De Moivre's theorem in a number of applications to solve numerical problems.
- Learn about the fundamental concepts of groups, subgroups, normal subgroups, isomorphism theorems, cyclic and permutation groups.
- Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix, using rank.
- Find eigenvalues and corresponding eigenvectors for a square matrix.
- Understand real vector spaces, subspaces, basis, dimension and their properties

CO 3: MATC 211: Differential Equations

- Understand the genesis of ordinary as well as partial differential equations.
- Learn various techniques of getting exact solutions of certain solvable first order differential equations and linear differential equations of second order.
- Know Picard's method of obtaining successive approximations of solutions of first order ordinary differential equations, passing through a given point in the plane.
- Learn about solution of first order linear partial differential equations using Lagrange's method.
- Know how to solve second order linear partial differential equations with constant coefficients.
- Formulate mathematical models in the form of ordinary and partial differential equations to problems arising in physical, chemical and biological disciplines

CO 4: MATC 221 Real Analysis

- Understand basic properties of real number system such as least upper bound property and Order property.
- Realize importance of bounded, convergent, Cauchy and monotonic sequences of real numbers, find their limit superior and limit inferior.
- Apply various tests to determine convergence and absolute convergence of a series of real numbers.
- Learn about Riemann integrability of bounded functions and algebra of R-integrable functions.

- Determine various applications of the fundamental theorem of integral calculus.
- Relate concepts of uniform continuity, differentiation, integration and uniform convergence.

CO 5: MATC 311(C): Numerical Methods

- Obtain numerical solutions of algebraic and transcendental equations.
- Find numerical solutions of system of linear equations and to check the accuracy of the solutions.
- Learn about various interpolating and extrapolating methods to find numerical solutions.
- Solve initial and boundary value problems in differential equations using numerical methods.
- Apply various numerical methods in real life problems.

CO 6: MATC 311(A): Discrete Mathematics

- Learn about partially ordered sets, lattices and their types.
- Understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications.
- Solve real-life problems using finite-state and Turing machines.
- Assimilate various graph theoretic concepts and familiarize with their applications.

CO 7: MATC 322 (A): Number Theory

- Some of the open problems related to prime numbers, viz., Goldbach conjecture etc.
- About number theoretic functions and modular arithmetic.
- Public crypto systems, in particular, RSA.

CO 8: *MATC 321 (B): Integral Transforms and Fourier Analysis Course*

- Know about piecewise continuous functions, Dirac delta function, Laplace transforms and its properties.
- Solve ordinary differential equations using Laplace transforms.
- Familiarise with Fourier transforms of functions belonging to $L^2(\mathbb{R})$ class, relation between Laplace and Fourier transforms.
- Explain Parseval's identity, Plancherel's theorem and applications of Fourier transforms to boundary value problems.
- Learn Fourier series, Bessel's inequality, term by term differentiation and integration of Fourier series.
- Apply the concepts of the course in real life problems.

CO 9: *MATC 311 (B): Matrices*

- Write down the coefficient matrix and augmented matrix of a linear system
- Make use of echelon forms in finding the solution sets of linear systems
- Understand the relation between the solution set of a consistent inhomogeneous linear system and its associated homogeneous equation
- Learn to compute the inverse of a matrix, if it exists
- To find a basis of a subspace of a Euclidean space
- To know what is meant by an orthogonal set, orthogonal basis and orthogonal matrix

CO 10: *ELEC 111/112: Basic Circuit Theory and Network Analysis & Practicals*

- Study circuits in a systematic manner suitable for analysis and design.
- Understands how to formulate circuit analysis problems in a mathematically tractable way with an emphasis on solving linear systems of equations.

- Analyze the electric circuit using network theorems.
- Determine Sinusoidal steady state response.
- Understand the two–port network parameters with an ability to find out two-port network parameters & overall response for interconnection of two-port networks.

CO 11: *ELEC 121/122: Semiconductor Devices & Practicals*

- Describe the behavior of semiconductor materials
- Reproduce the I-V characteristics of diode/BJT/MOSFET devices
- Apply standard device models to explain/calculate critical internal parameters of semiconductor devices
- Explain the behavior and characteristics of power devices such as SCR/UJT etc.

CO 12: *ELEC 211/ 212: Electronics Circuits & Practicals*

- Illustrate about rectifiers, transistor and FET amplifiers and its biasing. Also compare the performances of its low frequency models.
- Describe the frequency response of MOSFET and BJT amplifiers.
- Explain the concepts of feedback and construct feedback amplifiers and oscillators.
- Summarizes the performance parameters of amplifiers with and without feedback

CO 13: *ELEC 221/222: Digital Electronics and Verilog & Practicals*

- Understand and represent numbers in powers of base and converting one from the other, carry out arithmetic operations
- Understand basic logic gates, concepts of Boolean algebra and techniques to reduce/simplify Boolean expressions
- Analyze and design combinatorial as well as sequential circuits
- Explain the concepts related to PLD's
- Use VLSI design methodologies to understand and design simple digital systems & understand the HDL design flow and capability of writing programs in VHDL/Verilog
- Familiar with Simulation and Synthesis Tools, Test Benches used in Digital system design

CO 14: *ELEC 311/312 (A): Power Electronics & Practicals*

- Explain the basic principles of switch mode power conversion, models of different types of power electronic converters including dc-dc converters, PWM rectifiers and inverters
- Choose appropriate power converter topologies and design the power stage and feedback controllers for various applications. They use power electronic simulation packages for analyzing and designing power converters
- Describe the operation of electric machines, such as motors and generators and their electronic controls.
- Analyze the performance of electric machine

CO 15: *ELEC 321/322 (A): Modern Communication Systems & Practicals*

- Apply the basic knowledge of signals and systems and understand the basics of communication system and analog modulation techniques.
- Apply the knowledge of digital electronics and understand the error control coding techniques.
- Summarize different types of communication systems and its requirements.
- Design and Analyse the performance of communication systems

CO 16: *ELEC 311/312 (C): Semiconductor Fabrication and Characterization & Practicals*

- Summarize the developments in the field of microelectronics technologies

- Explain the semiconductor material characterization techniques like SEM, TEM, UV-Vis.
- Describe the lithography, etching and various film deposition processes.
- Explain the process sequence for BJT, CMOS and BiCMOS fabrication Processes.

CO 17: *ELEC 321/322 (B): Operational Amplifiers and Applications & Practicals*

- Infer the DC and AC characteristics of operational amplifiers and its effect on output and their compensation techniques.
- Elucidate and design the linear and non-linear applications of an op-amp and special application ICs.
- Explain and compare the working of multi vibrators using special application IC 555 and general purpose op-amp

CO 18: *ELEC 311/312 (B): Electronic Instrumentation & Practicals*

- Describe the working principle of different measuring instruments.
- Choose appropriate measuring instruments for measuring various parameters in their laboratory courses.
- Correlate the significance of different measuring instruments, recorders and oscilloscopes

CO 19: *ELEC 321/322 (C): Microprocessor and Microcontrollers & Practicals*

- Understand the basic blocks of microcomputers i.e CPU, Memory, I/O and architecture of microprocessor's and Microcontroller's
- Apply knowledge and demonstrate proficiency of designing hardware interfaces for memory and I/O as well as write assembly language programs for target microprocessor and microcontroller.
- Derive specifications of a system based on the requirements of the application and select the appropriate Microprocessor or Microcontroller

CO 20: *AECC 121 Environmental Science*

- Identify environmental impacts on the universe and human beings.
- Understand key terms and definitions of pollution.
- Learn basic principles, key concepts and importance of environmental law.
- Understand business benefits of adopting an environmental management system.
- Identify key issues related to energy use and waste minimization, water use, pollution and emergency planning.
- Encourage and motivate others to practice stewardship, and preservation of the environment for the future generations.
- Maintain "Swatch Bharat" as a gift to the citizens of India.
- Appreciate nature and the Creature of the Universe

CO 21: *UC 2 (HLWL) Health & Wellness*

- Demonstrate an overall knowledge of personal wellness.
- Establish the behaviors associated with optimum health and wellness.
- Familiar risk factors and warning signs used in the prevention of disease.
- Identify basic nutritional principles.

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5. B Sc. Microbiology

Program Outcome

A candidate who is conferred a B.Sc. (Hons) degree in Microbiology needs to have acquired/ developed the following competencies during the program of the study:

PO 1: Acquired knowledge and understanding of the microbiology concepts as applicable to diverse areas such as medical, industrial, environment, genetics, agriculture, food and others.
PO 2: Demonstrate key practical skills/competencies in working with microbes for study and use in the laboratory as well as outside, including the use of good microbiological practices.
PO 3: Competent enough to use microbiology knowledge and skills to analyze problems involving microbes, articulate these with peers/ team members/ other stake holders, and undertake remedial measures/ studies etc.
PO 4: Developed a broader perspective of the discipline of Microbiology to enable him to identify challenging societal problems and plan his professional career to develop innovative solutions for such problems.
PO 5: Scientific knowledge: Graduates will acquire biochemistry/biotechnology / bioinformatics/ microbiology specific knowledge including recent techniques in the respective fields coupled with hands-on skills and leadership skills for a successful career.
PO 6: Problem analysis: Graduates will be able to analyse, solve and troubleshoot problems in implementation of biochemistry/biotechnology/ microbiological protocols.
PO 7: Design/development of solutions: Graduates will develop creative thinking and cooperate with each other to solve problems in the field of biochemistry/biotechnology/bioinformatics/ microbiology.
PO 8: Conduct investigations of complex problems: Graduates will acquire practical skills – which help in planning and designing protocols to validate hypothesis and execute experimental techniques independently as well as assimilate, analyse and interpret subsequent data.
PO9: Modern tool usage and communication: Graduates will effectively be able to manage resources and time using ICT and computer enabled devices and accomplish ability to understand and communicate all ideas effectively.
PO 10: Environment sustainability and Ethics: Graduates will get adequate knowledge to use information and implement solutions for environmental protection and remediation. Graduates will be aware of their role and responsibility in handling and use of microbes including genetically modified microorganisms.
PO 11: Lifelong learning: Graduates will carry on to learn and adapt in a world of constantly evolving technology.

PROGRAM SPECIFIC OUTCOME

PSO 1: *Microbiological skills:* The ability to understand the basic concepts related to the relevant fields of microbiology which will enable them to analyse and develop solutions to microbiology related problems.

PSO 2: *Microbiology related employability skills:*
PSO 3: *Successful Career and Entrepreneurship:* The ability to use the acquired hands-on skills in microbiology, molecular identification, immunodiagnostics, medical microbiology

and screening for useful biomolecules to implement, validate and interpret data in protocols within employment areas. The ability to gainfully become an entrepreneur by using microorganisms to produce biofertilizers, mushrooms and pharmaceutically important biomolecules as well as using practical hands-on training to become employed in diagnostic, industrial, pharmaceutical, food and research and development laboratories.

PSO 4: *Societal responsibility:* The ability to learn and implement environmentally safe and sustainable practices by adhering to good microbiological practices, upholding ethical codes and gainful employability.

PSO 5: *Life-long learning:* The ability to learn, assimilate and update by using MOOC platforms and various digital platforms and knowledge resources as a continuous process of life-long learning and knowledge addition.

Course Outcomes

CO 1: *MICR 111/ 112: Microbial World and Principles of Microbiology and Practicals*

- Have developed a good knowledge of the development of the discipline of Microbiology and the contributions made by prominent scientists in this field.
- Have developed a very good understanding of the characteristics of different types of microorganisms, methods to organize/classify these into and basic tools to study these in the laboratory.
- Are able to explain the useful and harmful activities of the microorganisms.
- Are able to perform basic experiments to grow and study microorganisms in the laboratory.

CO 2: *MICR 113/114: Bacteriology and Systematics and Practicals*

- Describe characteristics of bacterial cells, cell organelles, cell wall composition and various appendages like capsules, flagella or pili.
- Differentiate a large number of common bacteria by their salient characteristics; classify bacteria into groups.
- Describe the nutritional requirements of bacteria for growth; developed knowledge and understanding that besides common bacteria there are several other microbes which grow under extreme environments.
- Perform basic laboratory experiments to study microorganisms; methods to preserve bacteria in the laboratory; calculate generation time of growing bacteria.

CO 3: *MICR 121/122: Basic Biochemistry and Practicals*

- Developed a very good understanding of various biomolecules which are required for development and functioning of a bacterial cell.
- Have developed how the carbohydrates make the structural and functional components such as energy generation and as storage food molecules for the bacterial cells
- Well conversant about multifarious function of proteins; are able to calculate enzyme activity and other quantitative and qualitative parameters of enzyme kinetics; also knowledge about lipids and nucleic acids.
- Student are able to make buffers, study enzyme kinetics and calculate Vmax, Km, Kcat

CO 4: *MICR 123/124: Microbial techniques & Instruments and Practicals*

- Principles which underlies sterilization of culture media, glassware and plastic ware to be used for microbiological work.
- Principles of a number of analytical instruments which the students have to use during

the study and also later as microbiologists for performing various laboratory manipulations.

- Handling and use of microscopes for the study of microorganisms which are among the basic skills expected from a practicing microbiologist. They also get introduced a variety of modifications in the microscopes for specialized viewing.
- Several separation techniques which may be required to be handled later as microbiologists.

CO 5: *MICR 211/212: Virology and Practicals*

- Understood what are viruses and the chemical nature of viruses, different types of viruses infecting animals, plants and bacteria (bacteriophages)
- Understanding about the biology of bacteriophages.
- Gained knowledge of a variety of plant viruses and animal viruses.
- The ability to describe role of viruses in the causation of the cancer
- Ability to understand the structure and importance of animal, plant and bacterial viruses using micrographs.
- Ability to perform local lesion technique for assaying plant viruses

CO 6: *MICR 213/214: Mycology & Phycology and Practicals*

- Describe useful and harmful activities of fungi and algae.
- Identify commonly available fungi and algae and their characteristics.
- Discuss how fungi and algae are used as biofertilizers in agriculture and as biopesticides.
- Grow mushroom in the laboratory.

CO 7: *MICR 215/216: Cell and Molecular Biology and Practicals*

- Understand the functioning of nucleus and extra nuclear organelles and understand the intricate cellular mechanisms involved.
- Acquire the detailed knowledge of different pathways related to cell signaling and apoptosis
- Get well versed in recombinant DNA technology which holds application in biomedical & genomic science, agriculture, environment management, etc. Therefore, a fundamental understanding of Molecular Biology will help in career building in all these fields.
- Apply their knowledge in problem solving and future course of their career development in higher education and research.
- Get new avenues of joining research in related areas such as therapeutic strategies or related opportunities in industry.

CO 8: *MICR 221/222: Microbial Genetics and Practicals*

- Understood genome organization of model organisms namely *E.coli* and *Saccharomyces,* and the molecular mechanisms that underlie mutations.
- Developed a fairly good knowledge about the three well known mechanisms by which genetic material is transferred among the microorganisms namely transformation, transduction and conjugation.
- Are able to describe different types of the extrachromosomal elements or the plasmids; the nature of the transposable elements in the prokaryotic and the eukaryotic cells.
- Hands on skills of isolation of plasmid DNA from bacterial cells and its visualization by performing agarose gel electrophoresis.

CO 9: *MICR 223: Microbial Physiology and Metabolism (4 Credits)*

- Describing the growth characteristics of the microorganisms capable of growing

under unusual environmental condition of temperature, oxygen, and solute and water activity.

- Describing the growth characteristics of the micro-organisms which require different nutrient for growth and the associated mechanisms of energy generation for their survival like autotrophs, heterotrophs, chemolithoautotrophy etc.
- Differentiating concepts of aerobic and anaerobic respiration and how these are manifested in the form of different metabolic pathways in microorganisms.

CO 10: *MICR 225/226: Environmental Microbiology and Microbial Ecology and Practicals*

- Have developed a fairly good knowledge and understanding of different types of environments and habitats where microorganisms grow including the microbiomes of the human gut and animal gut.
- Are able to identify the important role microorganisms play in maintaining healthy environment by degradation of solid/liquid wastes; how these activities of micro-organisms are used in sewage treatment plants, production of activated sludge and functioning of septic tanks
- Have understood the significance of BOD/COD and various tests involving use of enumerating fecal *E.coli* for assessing quality of water.
- Have developed the practical skills for conducting experiments to assess the BOD /COD of wastewaters and their interpretation; practically assess the portability of drinking water by the use of standard microbiological tests.

CO 11: *MICR 311/312: Industrial Microbiology and Practicals*

- Are capable of describing a large number of substrates that are used for the industrial fermentation processes.
- Have developed an understanding of different types of reactors or fermenters which are used for laboratory, pilot and industrial scale fermentations and their processes parameters.
- Have acquired a detailed knowledge of number of products which are produced by industrial fermentation processes

CO 12: *MICR 313: Medical and Veterinary Microbiology, and Immunology (4 Credits)*

- Understand the basic and general concepts of causation of disease by the pathogenic microorganisms and the various parameters of assessment of their severity including the broad categorization of the methods of diagnosis.
- Develop a thorough understanding of common bacterial, viral, fungal, parasitic diseases of human being including some very important diseases of the animals also.
- Conceptualize the protective role of the immune system of the host and developed an understanding of the basic components as well as the mechanisms underlying the immune system and its response to pathogenic microorganisms.
- Conduct experiments for growing common bacteria in different microbiological media, antibiotic sensitivity determination and antigen antibody reaction (precipitation test in the agarose)

CO 13: *MICR 321/322: Agriculture, Food and Dairy Microbiology and Practicals*

- Developed a clear understanding of the multifarious roles of microorganisms in soil, in association with plants and thus in the field of agriculture.
- Are able to describe the role of microorganisms in the production of food, its spoilage, including their role in homemade fermented foods.
- Are able to identify the role of microorganisms in the causation of the diseases and how to protect against food-borne pathogens.
- Developed experimental skills for testing the milk and different foods for the presence of microorganisms

CO 14: *MICR 323/324: Advanced Microbiology and Practicals*

- Can explain salient characteristics of genomes of representative microorganisms.
- Have understood the concept and importance of metagenomics.
- Have developed an initial understanding of recent developments of host-microbe interactions, synthetic biology, viable but non-culturable forms of microorganism etc.
- Are able to extract DNA from bacteria / soil and perform PCR for 16s Ribosomal genes using universal primers and interpret the results.

CO 15: *MICR 315 (A)/316 (A): Microbial Biotechnology and Practicals*

- Develop an understanding how microbiology is relevant to technological developments for agriculture and environment.
- Develop an understanding how microbiology is relevant to technological developments for industries related to food and fermentations.
- Develop an understanding how developments in recombinant DNA technology is juxtaposed with microbially-based technological developments for agriculture, industry and environment.
- Practically be able to produce different pigments and enzymes from bacteria and fungi which are of industrial importance

CO 16: *MICR 315 (B)/316 (B): Bioinformatics and Practicals*

- Develop skills to use computers for analysis of biological data.
- Skill to use important biological databases, use tools to retrieve data, and compare the data of the biological macromolecules
- Develop basic skills for data retrieval, representation, analysis and interpretation

CO 17: *MICR 317/318: Plant Pathology & Disease Management and Practicals*

- Develop basic concepts of causation of diseases in plants by the different types of microorganisms namely bacterial, fungal and viral.
- Knowledge of important plant diseases, their etiology, salient characteristics and control measures
- Develop skills to analyze the diseased plant samples in the laboratory and are able to identify the salient features of the disease-causing microbe and the lesions produced on the plant parts.

CO 18: *MICR 325 (A)/326 (A): Pharmaceutical Microbiology and Practicals*

- Acquired detailed knowledge of antimicrobial agents, their chemical nature, and mechanism of action and basis of resistance of microbes to these antimicrobials, formulations involving different antimicrobials, stabilization of formulations.
- Developed understanding of different types of disinfectants/antiseptics and their specific uses, and evaluation of their bactericidal and bacteriostatic actions; basic knowledge of cell cultures.
- Developed practical skills for testing pharmaceutical products for sterility testing and pyrogenicity testing using different methods

CO 19: *MICR 325 (B)/326 (B): Biostatistics and Practicals*

- Understand the basic physical parameters of cells or biological processes and basic methods used to study these.
- Have developed basic knowledge of mathematics as applied to biological phenomenon.
- Have developed basic concepts of statistics and their importance

CO 20: *MICR 327/328: Microbial Enzyme Technology and Practicals*

- Have acquired knowledge how microbes serve as a source for a large number of enzymes

- How these enzymes are produced in the laboratory, how their production is increased by different conditions and how the enzymes are purified.
- Practical skill for production and purification of enzymes; factors affecting microbial enzyme production; immobilization of enzymes.

CO 21: *MICR 217 (A)/218 (A): Microbial Diagnosis in Public Health and Practicals*

- Have developed a very good understanding of practical aspects of collection of different clinical samples, their transport, culture and examination by staining, and molecular and immunological diagnostic methods for diagnosis of microbial diseases.
- Have developed a very good understanding of practical aspects of antibiotic sensitivity testing, water and food testing skills using kits available in the market.

CO 22: *MICR 217 (B)/218 (B): Food Fermentation Technology and Practicals*

- Have developed a very good understanding of practical aspects commercially produced food and fermentative products.
- Have developed a very good understanding of practical use of microbiology for better production of home based food and fermentation products for day-to-day use.

CO 23: *MICR 217 (C)/218 (C): Mushroom Cultivation and Practicals*

- Have developed a very good understanding of nutritional aspects and commercial use of mushrooms for human consumption.
- Have developed a very good understanding of practical cultivation of mushrooms, management of diseases affecting mushrooms, mushroom harvesting and various avenues for using it into an entrepreneurship

CO 24: *MICR 227 (A)/228 (A): Microbial Quality Control in Food & Pharmaceutical Industries and Practicals*

- Have developed a very good understanding of practical aspects of microbiological safety, various detection methodologies and use of different microbiological media in food industries.
- Have developed a very good understanding of practical aspects of microbiological safety, various detection methodologies and toxicological testing of products in the pharmaceutical industries.

CO 25: *MICR 227 (B)/228 (B): Microbial Analysis of Air & Water and Practicals*

- Have developed a very good understanding and skills of the analysis of air, water and soil.
- Have developed a very good understanding of how analysis of water, air and soil contribute to control of environmental pollution.
- Develop a practical knowledge for isolating and identifying microorganisms from air and water, and be able to analyze water samples to determine the quality of the water.

CO 26: *MICR 227 (C)/228 (C): Biofertilizers and Biopesticides and Practicals*

- Have developed a very good understanding of practical aspects of production of biofertilizers.
- Have developed a very good understanding of practical aspects of the production of biopesticides/bioinsecticides.

Click here to view Course Structure and Syllabus

Post Graduate

(Duration of all Masters Programs: 2 Years)

1. **M Sc Biotechnology**

Program Outcomes

PO 1: ***Problem Analysis and Use of Technology:*** Think critically, identify, analyze problems/ situations and further attempt to design/ develop solutions that meet the specified goals. Apply appropriate IT tools efficiently in their daily activities of communication and academics.

PO 2: ***Environmental sustainability and Ethics:*** Analyze and attempt solutions to environmental issues and commit themselves to sustainable development in the local/ national and global context. Recognize and understand professional ethics /human values and be responsible for the same.

PO 3: ***Individual and Team Work, Communication and Life Skills***: Function effectively at various levels, capacities and situations. Communicate proficiently (oral and written) as a responsible member of society.

PO 4: ***Research Aptitude and Social responsibility:*** Understand general research methods and be able to analyze, interpret and derive rational conclusions. Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of domain specific change.

PO 5: ***Critical thinking, Analysis and Problem Solving***: Demonstrate proficiency in quantitative reasoning (critical thinking) and analytical skills. Also, be able to use these skills to analyze and solve industry related problems, thus preparing them for a successful career in industry and research institutes.

PO 6: ***Understanding the need for sustainable solutions***: Be able to understand the need and impact of biotechnological solutions on environment and societal context, keeping in view the need for sustainable solutions.

PO 7: ***Development of practical skills***: Equipped with practical skills and the ability to apply their theoretical concepts to design, perform experiments, analyze and interpret data and thus develop proficiency in laboratory management.

PO 8: ***Developing an inclination towards research:*** Develop an inclination towards research through the compulsory internship in industry/research/academic institutes, which promote and inculcate professional ethics and code of practice among students, enabling them to work in a team with a multidisciplinary approach.

Program Specific Outcomes

PSO 1: Demonstrate and apply their knowledge of cell biology, biochemistry, microbiology and molecular biology to solve the problems related to the field of biotechnology.

PO 2: Demonstrate knowledge for in-depth analytical and critical thinking to identify, formulate and solve the issues related to Biotechnology Industry, Pharma industry, Medical or hospital related organizations, Regulatory Agencies, and Academia.

PO 3: Demonstrate skills to use modern analytical tools/ software/ equipment; and analyze and solve problems in various courses of biotechnology.

PO 4: Demonstrate and apply the principles of bioprocess engineering in the design, analysis, optimization and simulation of bioprocess operations.

PO 5: Gain fundamental knowledge in animal and plant biotechnology and their applications.
PO 6: Adopt code of ethics in professional and social context and demonstrate exemplary professional, ethical and legal behaviors in decision-making.
PO 7: Understand the foundational concepts of molecular biology, and how these impact biotechnology research and development in the diverse fields that span healthcare and agriculture.

Course Outcomes

CO 1: *AECC 511: Research Methodology*

- Understand history and methodologies of scientific research, applying these to recent published papers;
- Understand and practice scientific reading, writing and presentations;
- Appreciate scientific ethics through case studies.
- Develop clear objectives for their research topic and hypotheses
- Understand the steps involved in doing research, including collecting research articles and preparing a review of literature.
- Be able to select and defend a topic of their research, effectively plan, execute, evaluate and discuss their experiments
- Have a clear picture of research methods they will employ for their project
- Be able to write a research proposal including the formulation of a scientific Question and the scientific approach to solve the problem, interpret and communicate results effectively to a suitable environment

CO 2: *BIOT 511/ 512: Biochemistry & Exercises*

- Gain fundamental knowledge in biochemistry;
- Understand the molecular basis of various pathological conditions from the perspective of biochemical reactions.

CO 3: *BIOT 513/514: Cell & Molecular Biology & Exercises*

- Apply knowledge of cell biology and molecular Biology in various cellular functions, inculcate a knowledge of various issues related to molecular cell biology, the application and research involved in functioning of the different cell organelles.
- Design and analyze the experiments related with the different molecules involved in cell biology and use of the various techniques in the molecular cell biology to study the kinetics and rationale behind each phenomenon.
- Identify, formulate, and solve problems arisen due to the inefficient functioning of the various life processes like cell to cell communication, cell cycle regulation, movement processes of a cell or system.
- Use the techniques, skills, and modern tools necessary for imbalances in various life processes, design a molecular cell biology research project, collect and analyze data, and interpret results

CO 4: *BIOT 515/516: Plant and Animal Biotechnology & Exercises*

- Students should be able to gain fundamental knowledge in animal and plant biotechnology and their applications including plant tissue culture, plant and animal genomics, genetic transformation and molecular breeding of plants and animals

CO 5: *GECC 511: Climate Change and the Global Impact*

- Develop understanding on the concept and issues of global environmental change
- Analyse the causes and effects of depletion of stratospheric ozone layer
- Examine the climate change and its effect on living beings

- Understand the physical basis of natural green house effect on man and materials
- Evaluate human influenced drivers of our climate system and its applications

CO 6: *GECC 513: Bio-Entrepreneurship*

- Students should be able to gain entrepreneurial skills,
- understand the various operations involved in venture creation,
- identify scope for entrepreneurship in biosciences and utilize the schemes promoted through knowledge centres and various agencies.
- The knowledge pertaining to management should also help students to be able to build up a strong network within the industry.

CO 7: *BIOT 521: Genetics*

- Describe fundamental molecular principles of genetics;
- Understand relationship between phenotype and genotype in human genetic traits;
- Describe the basics of genetic mapping;
- Understand how gene expression is regulated.

CO 8: *BIOT 522/523: Genetic Engineering & Exercises*

- Given the impact of genetic engineering in modern society, the students should be endowed with strong theoretical knowledge of this technology.
- In conjunction with the practicals in molecular biology & genetic engineering, the students should be able to take up biological research as well as placement in the relevant biotech industry.

CO 9: *BIOT 524/525: Biophysics & Instrumentation & Exercises*

- Major Biological Macromolecules
- Concept of Energy & Bioenergetics
- Biophysics of Muscle movement, Impulse generation and impulse transmission
- Electromagnetic radiation
- Biophysics of Vision
- Spectroscopy- various types of spectroscopic techniques
- Microscopy, Chromatography, Electrochemical instruments, Electrophoresis, Centrifugation
- Immuno-techniques and Membrane filtration and dialysis
- Molecular hybridization Techniques
- Principle and applications of tracer technique in biology

CO 10: *BIOT 526/527: Bioprocess Engineering & Technology & Exercises*

- Appreciate relevance of microorganisms from industrial context;
- Carry out stoichiometric calculations and specify models of their growth;
- Give an account of design and operations of various fermenters;
- Present unit operations together with the fundamental principles for basic methods in production technique for bio-based products;
- Calculate yield and production rates in a biological production process, and also interpret data;
- Calculate the need for oxygen and oxygen transfer;
- Critically analyze any bioprocess from market point of view;
- Give an account of important microbial/enzymatic industrial processes in food and fuel industry.
- Investigate, design and conduct experiments, analyze and interpret data, and apply the laboratory skills to solve complex bioprocess engineering problems;
- Apply skills and knowledge gained will be useful in solving problems typical of bio industries and research.

CO 11: *BIOT 531/532: Biostatistics & Bioinformatics & Exercises*

- Develop an understanding of basic theory of these computational tools;
- Gain working knowledge of these computational tools and methods;
- Appreciate their relevance for investigating specific contemporary biological questions;
- Critically analyse and interpret results of their study.

CO 12: *BIOT 533/534: Medical Microbiology & Immunology & Exercises*

- Evaluate usefulness of immunology in different pharmaceutical companies;
- Identify proper research lab working in area of their own interests;
- Apply their knowledge and design immunological experiments to demonstrate innate, humoral or cytotoxic T lymphocyte responses and figure out kind of immune responses in the setting of infection (viral or bacterial).
- Understand the basic and general concepts of causation of disease by the pathogenic microorganisms and the various parameters of assessment of their severity including the broad categorization of the methods of diagnosis

CO 13: *BIOT 535: Intellectual Property Rights, Bioethics & Biosafety*

- Understand the rationale for and against IPR and especially patents;
- Understand why India has adopted an IPR Policy and be familiar with broad outline of patent regulations;
- Understand different types of intellectual property rights in general and protection of products derived from biotechnology research and issues related to application and obtaining patents;
- Gain knowledge of biosafety and risk assessment of products derived from recombinant DNA research and environmental release of genetically modified organisms, national and international regulations;
- Understand ethical aspects related to biological, biomedical, health care and biotechnology research

CO 14: *BIOT 536: Environmental Biotechnology*

- On completion of this course, students will be able to understand use of basic microbiological, molecular and analytical methods, which are extensively used in environmental biotechnology
- Bioremediation and role of microorganisms
- Bioinsecticides
- Biofertilizers
- Biofuels
- Bioleaching of metals

CO 15: *GECC 531: Topics in Philosophy of Science*

- study the books, chapters, articles and webpages assigned, and reflect and raise questions from the reading, in order to share and submit them to the subgroups for discussion.
- understand philosophy as a relevant activity by examining, analysing, synthesizing, speculating, prescribing, and evaluating issues and alternatives.
- think about and express personal worldviews, the concept of truth, knowledge, nature and humankind, and values, as philosophical "tools"
- participate in debates and forums as well as an online community of learners (faculty and students) that can produce significant recommendations and/or contributions to a larger community

CO 16: *GECC 532: Solid Waste Management*

- Processing techniques and recovery of energy

- Refuse disposal methods – incineration, sanitary landfill
- Hazardous waste management
- Environmental policies & legislation
- Sustainable techniques in municipal solid waste management – case studies
- Management of urban waste services

CO 17: *BIOT 541/542: Bacteriology and Virology & Exercises*

- Understand Taxonomy and Diversity of Bacteria and the Ultrastructure
- Identify the role of Bacteriology in Public health, Agriculture and the Environment
- Learn to identify viruses, their General properties, Morphology and ultrastructure
- Learn about Bacteriophages:
- Cultivation of viruses
- Viral Diagnosis
- Animal, Plant and Poultry viruses

CO 18: *BIOT 543: Molecular Diagnostics. Genomics and Proteomics*

- Diagnostic metabolomics
- Detection and identity of microbial diseases
- Detection of inherited diseases
- Molecular oncology
- Genomics, overview of the techniques used in genomic studies
- proteomics, gel based proteomic tools
- Functional genomics and proteomics

CO 19: *BIOT 544: Emerging Technologies*

- Students should be able to learn history, theoretical basis and basic understanding of latest technologies in area of biotechnology. They should also be able to learn about various applications of these technologies. The students may also learn one application in depth through an assignment and/or seminar

CO 20: *BIOT 545: Nanotechnology*

- On successful completion of this course, students should be able to describe basic science behind the properties of materials at nanometer scale, and the principles behind advanced experimental and computational techniques for studying nanomaterials.

CO 21: *SECC 521: Computational Biology*

- Develop an understanding of the basic theory of these computational tools;
- Develop required database extraction, integration, coding for computational tools and methods necessary for all Omics;
- Create hypothesis for investigating specific contemporary biological questions, provide help to experiment with or develop appropriate tools;
- Critically analyze and interpret results of their study with respect to whole systems.

CO 22: *SECC 522: Drug Discovery and Development*

- On completion of this course, students should be able to understand basics of R&D in drug discovery and should be able to apply knowledge gained in respective fields of pharmaceutical industry.

Click here to view Course Structure and Syllabus

2. M Sc. Botany

Program Outcomes

PO 1: Understand the scope and significance of the discipline and develop an interest in Research and Scientific publication

PO 1: Imbibe love and curiosity towards nature through the living plants and appreciate the design of the Creator

PO 1: Enhance and develop a scientific attitude that entails open mindedness and curiosity

PO 1: Instill values of diligence, sincerity and hard-work and the application of ethical principles in research and teaching.

PO 1: Develop skill in practical work, experiments, use of laboratory equipment and accurate interpretation of scientific data.

PO 1: Embark on a quest for creating patents

PO 1: Develop entrepreneurial skills that can make students self-sufficient.

PO 1: Develop a thirst to preserve the natural resources and environment.

PO 1: Contribute to improving the agricultural sector in the country by application of acquired knowledge

PO 1: Prepare the students for many competitive exams like MPSC, UPSC NET SET GATE.

Program Specific Outcomes

PSO 1: Understand the classification of plants from cryptogams to Spermatophyte. Identification of the flora within field enhances basics of plants. Study of biodiversity in relation to habitat will correlates with climate change, land and forest degradation. Application of Botany in agriculture is through study of plant pathology.

PSO 1: Understand the ultra-structure and function of cell membranes, cell communications, signalling, genetics, anatomy, taxonomy, ecology and plant Physiology and biochemistry. To understand the multi functionality of plant cells in production of fine chemicals and their wide spread industrial applications.

PSO 1: Learn about practical technique in lab for detail study of plant cell structure, reproduction, anatomy, breeding procedures for hybridization, Molecular and Physiological adaptations in plants in response to biotic and abiotic stress, genes responsible for stress tolerance, genetic engineering of plants.

PSO 1: Maintain a high level of scientific excellence in botanical research with specific emphasis on the role of plants. Create, select and apply appropriate techniques, resources and modern technology in multidisciplinary way. Modules on analytical techniques, plant tissue culture and photochemistry would make them obtain skills that help in doing research.

PSO 1: Learning that develops analytical and integrative problem-solving approaches. Practice of subject with knowledge to design experiments, analyze and interpret data to reach an effective conclusion. Identify, formulate and analyze the complex problems to reach a substantiated conclusion. Logical thinking with application of biological, physical and chemical sciences.

Course Outcomes

CO 1: *AECC 511: Research Methodology*

- Understand history and methodologies of scientific research, applying these to recent published papers;
- Understand and practice scientific reading, writing and presentations;
- Appreciate scientific ethics through case studies.

- Develop clear objectives for their research topic and hypotheses
- Understand the steps involved in doing research, including collecting research articles and preparing a review of literature.
- Be able to select and defend a topic of their research, effectively plan, execute, evaluate and discuss their experiments
- Have a clear picture of research methods they will employ for their project
- Be able to write a research proposal including the formulation of a scientific Question and the scientific approach to solve the problem, interpret and communicate results effectively to a suitable environment

CO 2: *BOTA 511/512: Taxonomy I (Algae, Fungi, Bryophytes) & Exercises*

- Have gained adequate knowledge on classification, structure and comparative account of various Algal, Fungal and Bryophyte divisions
- Be able to describe the salient features of typical examples
- Comment about the distribution, structure and life history of algae, fungi, lichens and Bryophytes
- Identify the economic importance of each of the lower plant groups studied
- Identify and describe the morphological and anatomical or reproductive characteristics of examples given.
- Students will gain understanding of the plant diseases, causal organism, host and their relationship and control measure for plant diseases
- Isolation and identification of fungi from different sources including soil.

CO 3: *BOTA 513/514: Cell and Molecular Biology & Exercises*

- Cell wall-biogenesis, ultra-structure and function. Growth-primary and Secondary wall
- Cell membranes - Molecular organization, Fluid mosaic model, membrane protein diffusion, properties of membranes, transport across membranes - facilitated diffusion, carrier & channel proteins, transporters, active transport, transport of ions and solutes
- Plasmodesmata – Structure and role in movement of molecules, virus transport
- Vacuoles – Tonoplast membrane biogenesis, transporters, role as storage organelle, transport across vacuolar membrane
- Endoplasmic reticulum- Role in synthesis and transport of Secretory proteins
- Golgi complex – Role in sorting, storage and secretion,
- Lysosomes, Glyoxysomes and Peroxisomes- structure and functions
- Cytoskeleton – Composition and organization of microtubules, microfilaments. Treadmilling, role in cell division, signalling and intracellular traffic.
- Nucleus – Structure, organization and regulation of nuclear pore complex. Transport across nuclear membrane, nucleolus and chromosomes.
- Ribosomes – Structure, assembly and dissociation of subunits, function.
- Biogenesis of chloroplasts and mitochondria.

CO 4: BOTA 515/516: Genetics and Plant Breeding & Exercises

- Describe sources and types of genetic variation and explain their importance for plant improvement.
- Describe the progression of stages within a modern breeding program from the setting of breeding objectives, through the development and implementation of breeding strategies to the commercialization of plant varieties and the protection of intellectual property.

- Describe methods that are used in plant breeding.
- Locate, analyze, evaluate and synthesize information relevant to plant breeding.
- Judge which plant breeding methods are appropriate for specific objectives and situations.
- Formulate and justify a plan for the application of plant breeding methods to achieve a specific objective.
- Carry out specific plant breeding activities, such as selection of parental germplasm, observation and recording of phenotypic variation and selection among progeny.

CO 5: *GECC 511: Climate Change and the Global Impact*

- Develop understanding on the concept and issues of global environmental change
- Analyse the causes and effects of depletion of stratospheric ozone layer
- Examine the climate change and its effect on living beings
- Understand the physical basis of natural green house effect on man and materials
- Evaluate human influenced drivers of our climate system and its applications

CO 6: *GECC 512: IPR, Bioethics & Biosafety*

- provide basic knowledge on intellectual property rights and their implications in biological research and product development;
- become familiar with India's IPR Policy;
- learn biosafety and risk assessment of products derived from biotechnology and regulation of such products;
- become familiar with ethical issues in biological research. This course will focus on consequences of biomedical research technologies such as cloning of whole organisms, genetic modifications, DNA testing.

CO 7: *SECC 521: IT Skills for Botanists*

- Apply the basic operations of spreadsheet applications
- Recognize advanced resources for accessing scholarly literature from internet
- Utilize bibliography management software while typing and downloading citations
- Operate various software resources with advanced functions and its open office substitutes

CO 8: *SECC 522: Plant Tissue Culture*

- To acquaint students with the principles, technical requirement, scientific and commercial applications of plant tissue and cell culture.
- To expose students to supporting methodologies of plant tissue and cell culture, micropropagation techniques, and applications of tissue and cell culture to plant improvement.

CO 9: *BOTA 521/ 522: Floriculture & Nursery Management & Exercises*

- Scope of floriculture and landscape gardening
- Nursery Management and Routine Garden Operations including Vegetative propagation
- Different types of gardening - landscape and home gardening
- Cultivation of plants in pots; Indoor gardening; Bonsai.
- Cultivation of some flowers
- Commercial Floriculture
- Diseases and Pests of Ornamental Plants
- Flower arrangements; Methods to prolong vase life.

CO 10: *BOTA 523/ 524: Taxonomy II (Pteridophytes & Gymnosperms) & Exercises*

- Have gained adequate knowledge on comparative account of Pteridophytes &

Gymnosperms

- Be able to describe the salient features of typical examples
- Comment about the distribution, structure and life history of Pteridophytes & Gymnosperms
- Identify the economic importance of each of the plant groups studied.

CO 11: *BOTA 525/526: Plant Physiology & Biochemistry & Exercises*

- Students will understand and appreciate the basic principles of plant function, metabolism, secondary products, cell physiology & principles of growth & development

CO 12: *BOTA 527/528: Plant Ecology & Environmental Management & Exercises*

- Students will understand the vegetative organization in community. Students will get to know about how changes take place during ecological succession.
- Student will have developed knowledge about structure and function of ecosystem. They also will understand about biogeochemical cycle in environment and its role.
- Students will understand the effect of air, water and soil pollution in environment. They will also develop knowledge about greenhouse gases its sources and role.
- Student will get knowledge about invasive species of plant. They will get to know about how ecological management takes place.

CO 13: *BOTA 531/532: Tools & Techniques in Botany & Exercises*

- Microtomy, Microscopy and microscopic techniques, Radioactive techniques, Electrochemical techniques, Measurement of water potential and osmolarity, Gas exchange measurements, Centrifugation techniques, Spectroscopic techniques, Chromatographic techniques, Immunological techniques, Electrophoretic techniques

CO 14: *BOTA 533/ 534: Taxonomy III (Angiosperms) & Exercises*

- Student will understand floral structure of Angiospermic plants and how stamens and carpels are evolved. They will also understand adaptive feature of pollinators.
- Students will get to know about scope, aim, principles of taxonomy. They will get knowledge about concepts of taxa, genus etc.
- Students will get knowledge about various taxonomic evidences. They will also understand how to prepare herbarium sheets and how to read floras.
- Students will understand about biosystematics. They will also understand adaptive features of ICBN

CO 15: *GECC 531: Topics in Philosophy of Science*

- study the books, chapters, articles and webpages assigned, and reflect and raise questions from the reading, in order to share and submit them to the subgroups for discussion.
- understand philosophy as a relevant activity by examining, analysing, synthesizing, speculating, prescribing, and evaluating issues and alternatives.
- think about and express personal worldviews, the concept of truth, knowledge, nature and humankind, and values, as philosophical "tools"
- participate in debates and forums as well as an online community of learners (faculty and students) that can produce significant recommendations and/or contributions to a larger community

CO 16: *GECC 532: Solid Waste Management*

- Processing techniques and recovery of energy
- Refuse disposal methods – incineration, sanitary landfill
- Hazardous waste management
- Environmental policies & legislation

- Sustainable techniques in municipal solid waste management – case studies
- Management of urban waste services

CO 17: *BOTA 541/542: Plant Anatomy & Plant Development & Exercises*

- Understand the role of various hormones in plant development. They will understand how growth of shoot apical meristem takes place.
- Gain knowledge about the various arrangements of leaves in plants. They will have developed knowledge about photoperiodism.
- Understand the structure of anther and role of gene expression during pollen development, know about fertilization and how pollen stigma interaction takes place.
- Understand how endosperm provides nutrition to embryo development and how germination of seed takes place in plants.
- Learn about the anatomical details of parts of plants
- Identify anatomical adaptations of ecologically significant groups of plants

CO 18: *BOTA 535/536 (D): Pharmacognosy I & Exercises*

- Evaluation of Drugs, Processing and Marketing
- Pharmacognostic studies of some drugs with respect to geographical distribution, cultivation, post-harvest technology, collection, macroscopic and microscopic characters, commercial products
- Examples of Drugs from Root, Rhizome, Stem, bark, leaf, flower, fruit and seed
- Natural Products Chemistry including Major secondary metabolism pathways,
- Methods of extraction, isolation, purification, identification and estimation of metabolites.
- Applied Pharmacognosy; Ethnobotany, Regulatory requirements for new drugs, Nutraceuticals and Cosmeceuticals
- Standardization, quality, efficacy and safety requirements & assessment procedures for herbal medicines as per USFDA.

CO 19: *BOTA 545/546 (D): Pharmacognosy II & Exercises*

- Conservation of medicinal plants and study of secondary metabolism in vitro
- Screening and evaluation of phytochemicals
- Tools for metabolism engineering
- Modifications of plant secondary metabolism by genetic engineering: case studies
- Genetic engineering of enzymes diverting amino acids into secondary metabolites
- Screening for biological activities Antimicrobial screening of Herbal drugs/Extracts
- Antifungal screening of Herbal drugs/Extracts
- Anticancer activity by MTT assay
- Antioxidant activity of herbal drugs/extracts

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