St. Ann's College for Women
(Autonomous), Affiliated to Osmania University
Accredited by NAAC with A+ Grade (3rd cycle), CPE by UGC
ISO 9001:2015, 14001:2015
Mehdipatnam, Hyderabad.

PEOs/POs/PSOs/COs

Program Educational Objectives/ Program Outcomes /Program Specific Outcomes / Course Outcomes

Program Educational Objectives

1. The PEO focus on new educational areas and learning outcomes
2. Broaden engagement with society and industry
3. Inculcate critical thinking, communication and creativity
4. Promote IT literacy through extensive use of technology
5. Facilitate global exchange initiatives and collaborations
6. Enhance life skills by providing value-based education
7. Work for a clean green campus
8. Ensure excellence through effective governance and quality frameworks
9. Enrich the campus life for a transforming and empowering experience.

St. Ann's College for Women
(Autonomous), Affiliated to Osmania University
Accredited by NAAC with A+ Grade (3rd cycle), CPE by UGC
ISO 9001:2015, 14001:2015
Mehdipatnam, Hyderabad.

Program Outcomes and Program Specific Outcomes

S. No.	Program	Program Outcomes	Program Specific Outcomes
1	**B. A. (EPP)** Economics, Public Administration, Political Science	**B.A.** **PO1**: Provide a platform to the study of basic Social Sciences. Integrate the basic, multidisciplinary, interdisciplinary and contemporary knowledge with flexibility and choice **PO2:** Enable to be responsive to change, to be inquiring and reflective practice through information literacy autonomous and self-minded learning. Perspectives to advance and understand impactful research in the emerging areas. **PO3**: Develop to communicate and collaborate with individuals and within teams, in professional and community settings. Professional report writing, mini dissertations, survey techniques that impact social life for communities, government, NGOS and media houses. **PO4:** To **e**ngage with diverse cultural groups and indigenous perspectives in	**PSO1:** Remember the concept of economic principles and policies. Understand the essentials of empirical estimation and apply the required quantitative skills to economic problems for effective decision making. To analyze the issues in the regional economy and its implications to the household budget. **PS02:** Enable to understand Public Administration both theoretical and practical level, with special reference to mechanism of Govt. and facilitate employment in various administrative works in public and private firms. **PSO3**: Understand the basic concepts and issues concerning human rights and challenges. Demonstrate social responsibility and ethical reasoning within a variety of contexts. Use analytical skills to understand civic, social and environmental challenges and enable a graduate to acquire problem analysis, capabilities, and social responsibilities and enhance the individual ethics and make a lifelong learner.

		global and local settings **PO5**: Ignited enough to think and act over for the solution of various issues prevailed in the human life to make this world better than ever and provides the base to be the responsible citizen	
2	**B. A. (HEP)** History, Economics, Political Science		**PSO1:** Enable to become an archaeologist, curators and helpful in writing civil service exams and various other competitions. Acquire internship in Conservation of Monuments, Indian National Trust for Art and Cultural Heritage (INTACH). **PSO2**: Remember the concept of economic principles and policies. Understand the essentials of empirical estimation and apply the required quantitative skills to economic problems for effective decision making. To analyze the issues in the regional economy and its implications to the household budget. **PSO3**: Understand the basic concepts and issues concerning human rights and challenges. Demonstrate social responsibility and ethical reasoning within a

			variety of contexts. Use analytical skills to understand civic, social and environmental challenges and enable a graduate to acquire problem analysis, capabilities, social responsibilities and enhance the individual ethics and make a lifelong learner.
3	**B. A. (PEP)** Psychology, Economics, Political Science		**PSO1:** Understands the basic concepts, systems, theories of psychology and psychopathology. Practical application skills enable to apply the theoretical principles in demonstrating and understanding the behavior, thoughts and feelings of the individual and the individuals in group. Inculcate the skills pertaining to psychological testing, assessment and counseling to recognize and respect the complexity of multiculturalism in the practice and application of counseling and psychotherapy. **PSO2**: Remember the concept of economic principles and policies. Understand the essentials of empirical estimation and apply the required quantitative skills to economic problems for effective decision making. To analyze the issues in the

			regional economy and its implications to the household budget. **PSO3**: Understand the basic concepts and issues concerning human rights and challenges. Demonstrate social responsibility and ethical reasoning within a variety of contexts. Use analytical skills to understand civic, social and environmental challenges and enable a graduate to acquire problem analysis, capabilities, social responsibilities and enhance the individual ethics and make a lifelong learner.
4	**B. A. (HPP)** History, Public Administration, Political Science		**PSO1:** Enable to become an archaeologist, curators and helpful in writing civil service-- exams and various other competitions. Acquire internship in Conservation of Monuments, Indian National Trust for Art and Cultural Heritage (INTACH). **PSO2**: To enable the students to understand Public Administration both theoretical and practical level, with special reference to machinery of Govt. and facilitate students to be employed in various public and private sectors into Administration. **PSO3**: Understand the basic

			concepts and issues concerning human rights and challenges. Demonstrate social responsibility and ethical reasoning within a variety of contexts. Use analytical skills to understand civic, social and environmental challenges and enable a graduate to acquire problem analysis, capabilities, social responsibilities and enhance the individual ethics and make a lifelong learner.
5	**B. A. (HLP)** History, English Literature, Political Science		**PSO1:** Enable to become an archaeologist, curators and helpful in writing civil service-- exams and various other competitions. Acquire internship in conservation of Monuments, Indian National Trust for Art and Cultural Heritage (INTACH). PSO2: Creates a platform to study the language of media through literature, analyzes literary forms and techniques as the vehicle of expression to grow in communication in media. Adapts language and literature to give a contemporary perspective. build their research capabilities giving them the tools for entry level testing for PG programs IELTS and other

			competitive examinations **PSO3:** Understand the basic concepts and issues concerning human rights and challenges. Demonstrate social responsibility and ethical reasoning within a variety of contexts. Use analytical skills to understand civic, social and environmental challenges and enable a graduate to acquire problem analysis, capabilities, social responsibilities and enhance the individual ethics and make a lifelong learner.
6	**B. A. (PLP)** Psychology, English Literature, Political Science		**PSO1:** Understands the basic concepts, systems, theories of psychology and psychopathology. Practical application skills enable to apply the theoretical principles in demonstrating and understanding the behavior, thoughts and feelings of the individual and the individuals in group. Inculcate the skills pertaining to psychological testing, assessment and counseling to recognize and respect the complexity of multiculturalism in the

			practice and application of counseling and psychotherapy. **PSO2:** Creates a platform to study the language of media through literature, analyzes literary forms and techniques as the vehicle of expression to grow in communication in media. Adapts language and literature to give a contemporary perspective. build their research capabilities giving them the tools for entry level testing for PG programs IELTS and other competitive examinations **PSO3:** Understand the basic concepts and issues concerning human rights and challenges. Demonstrate social responsibility and ethical reasoning within a variety of contexts. Use analytical skills to understand civic, social and environmental challenges and enable a graduate to acquire problem analysis, capabilities, social responsibilities and enhance the individual ethics and make a lifelong learner.

	B.Sc. (BZC) Botany, Zoology, Chemistry	**B.Sc.** **PO1:** Comprehend by integrating domain competency with multidisciplinary, interdisciplinary, & contemporary knowledge and accomplish academic excellence. **PO2:** Acquire skills encompassing experimental, technological, communication & soft skills leading towards gainful employment.	**PSO1**	Identify various processes of plant, animal and chemical science
			PSO2	Develop skills and apply the knowledge in executing the experiments and analysing them
			PSO3	Enable to pursue higher education and be employed in academic field, research labs and pharma industry
8	**B.Sc. (MCZ)** Microbiology, Chemistry, Zoology		**PSO1**	Comprehend fundamental concepts, principles and processes underlying the fields and subfields of Microbiology, Zoology & Chemistry
			PSO2	Demonstrate Key laboratory skills and competency developed to conduct research in biology and interdisciplinary fields.
			PSO3	Apply the broader perspective developed in the disciplines either to pursue higher studies or identify career options to solve challenging societal problems
9	**B.Sc. (MCB)** Microbiology, Chemistry, Botany		**PSO1**	Comprehend fundamental concepts, principles and processes underlying the fields and subfields of Microbiology, Botany & Chemistry
			PSO2	Demonstrate Key laboratory skills and competency developed to conduct research in

		PO3: Exhibit research intelligence with scientific competency and problem-solving mind.		biology and interdisciplinary fields.
			PSO3	Apply the broader perspective developed in the disciplines either to pursue higher studies or identify career options to solve challenging societal problems
10	**B.Sc. (GCM)** Genetics, Chemistry, Microbiology	**PO4:** Inculcate ability to understand and appreciate different value systems, participate responsibly and rationally as an aware citizen **PO5:** Build capacities leading to lifelong learning, leadership abilities,& entrepreneur skills to evolve as self-dependent, empowered women	**PSO1**	Acquire academic excellence in basic concepts and their applications in Genetics, Microbiology and Chemistry
			PSO2	Demonstrate competency in laboratory and research skills that would enable them to pursue higher studies and innovate novel ideas to solve problems of society
			PSO3	Begin a career in R& D organisation / industry or become self-employable
11	**B.Sc. (GCZ)** Genetics, Chemistry, Zoology		**PSO1**	Acquire academic excellence in basic concepts and their applications in Genetics, Chemistry and Zoology
			PSO2	Demonstrate competency in laboratory and research skills that would enable them to pursue higher studies and innovate novel ideas to solve problems of society
			PSO3	Begin a career in R& D organisation / industry or become self-employable
12	**B.Sc. (NCZ)** Nutrition,		**PSO1**	Acquire academic excellence in fundamental concepts, principles & processes in Nutrition, Chemistry and Zoology and their related disciplinary areas

	Chemistry, Zoology		**PSO2**	Develop skills and apply the knowledge in executing the experiments and analysing the data and take up higher studies
			PSO3	Demonstrate personal and professional competence in the areas of Nutrition, Chemistry and Zoology and be gainfully employed /self employed
13	**B.Sc. (BBC)** Biotechnology, Biochemistry, Chemistry		**PSO1**	Acquire knowledge in domain of Biotechnology, Biochemistry & Chemistry
			PSO2	Apply technological know how by connecting disciplinary and interdisciplinary aspects of the subjects in industry, diagnostic laboratories, pharma companies and various research fields
			PSO3	Undertake further studies in related areas/subjects that help develop a range of generic skills that are relevant to employment, self-employment and entrepreneurship.
14	**B.Sc. (NCB)** Nutrition, Chemistry, Botany		**PSO1**	Acquire academic excellence in fundamental concepts, principles & processes in Nutrition, Chemistry and Botany and their related disciplinary areas
			PSO2	Develop skills and apply the knowledge in executing the experiments and analysing the data and take up higher studies
			PSO3	Demonstrate personal and professional competence in the areas of Nutrition, Chemistry and Botany and be gainfully employed /self employed
15	**B.Sc. (MSCs.)** Mathematics, Statistics, Computer Science		**PSO1**	Acquire strong foundation from fundamental concepts to advanced areas of Mathematics, Statistics and Computer science; attain global competency exhibiting analytical, logical, programming and research abilities.
			PSO2	Develop proficiency in data analysis & interpretation towards research and collaborate efficiently both as a team player and a leader
			PSO3	Gain employable skills through hands-on coding & computing abilities and inculcate a spirit of lifelong learning adapting to the new demands from industry.

16	**B.Sc. (MPCs.)** Mathematics, Physics, Computer Science		**PSO1**	Acquire strong foundation from fundamental concepts to advanced areas of Mathematics, Physics and Computer science; attain global competency exhibiting analytical, logical, programming and research abilities.
			PSO2	Develop proficiency in different laboratory techniques and drive zeal to apply the same to the real-world situation.
			PSO3	Gain employable skills through interdisciplinary and multidisciplinary knowledge, hands-on coding & computing abilities and inculcate a spirit of lifelong learning adapting to the new demands from industry.
17	**B.Sc. (MECs.)** Mathematics, Electronics, Computer Science		**PSO1**	Acquire strong foundation from fundamental concepts to advanced areas of Mathematics, Electronics and Computer science; attain global competency exhibiting analytical, logical, programming and research abilities.
			PSO2	Develop proficiency in computing, simulation, and laboratory techniques cultivating thirst for knowledge on emerging technologies in becoming empowered women.
			PSO3	Derive employable skills through interdisciplinary and multidisciplinary knowledge, industry exposure for hands-on skills leading to gainful employment.
18	**B.Sc. (MSDs.)** Mathematics, Electronics, Data Science		**PSO1**	Acquire strong foundation from fundamental concepts to advanced areas of Mathematics, Statistics and Data science; attain global competency exhibiting analytical, logical, programming and research abilities.
			PSO2	Develop proficiency to apply core knowledge and skills for data analysis & interpretations and modelling towards research in evolving fields; demonstrate the aptitude to collaborate both as a team player and a leader

			PSO3	Gainemployable skills through hands-on coding & programming abilities and inculcate a spirit of lifelong learning developing ability to update to the new demands from industry.
19	**B.Com. General (Accounting)**	**B.Com.** **PO1**: Demonstrate an understanding of every aspect of commerce and its allied subjects. **PO2**: Apply the competencies and creativity to join the industry, pursue professional courses and undertake entrepreneurship **PO3**: Develop diverse skills and specific capabilities to meet the challenges of the globalized world **PO4**: Explore quality research in24 commerce with multi	**PSO1**: Understand the basic concepts of Economics, Accounting, Auditing, Financial analysis, Banking, Business and Tax laws **PSO2:** Acquiring in-depth knowledge of Financial systems and Investment Decisions **PSO3**: Demonstrate the application of Accounting and Finance in Commerce and Industry
21	**B.Com. Computer Applications**		**PSO1**: Understand the basic concepts of Economics, Accounting, Auditing, Financial analysis, Banking, Business and Tax laws **PSO2:** Acquire knowledge of Operating Systems, Data Base Management, Basic Software and web technologies, Ecommerce and Digital marketing for business decision making **PSO3:**Demonstrate IT skills acquired in business applications
22	**B. Com Vocational Foreign Trade**		**PSO1:** Understand the basic concepts of Economics, Accounting, Auditing, Financial analysis, Banking, Business and Tax laws **PSO2**: Acquire conceptual knowledge of International Trade, Exim procedures and practices, Documentation, Logistics management and cross-cultural buying behaviours **PSO3**: Apply Foreign Trade proficiency in solving issues of globalised business enterprises
23	**B.Com. Honors**		**PSO1**: Understand the basic concepts of Economics, Accounting, Auditing, Financial analysis, Banking, Business and Tax laws **PSO2**: Acquire skills in Financial planning, analysis, performance, reporting and control for modern business organisations **PSO3:** Develop Certified Finance professionals for global markets

24	**B. Com (BPM)**	disciplinary approach for sustainable development **PO5:** Recognize and demonstrate ethical and moral responsibility as empowered women in society and engage in lifelong learning	**PSO1:** Understand the basic concepts of Economics, Accounting, Auditing, Financial analysis, Banking, Business and Tax laws **PSO2**: Acquire Industry Interface management skills, methods and competencies for automation of Business Processes **PSO3**: Acquire Industry Interface management skills, methods and competencies for automation of Business Processes
25	**B. Com (Business Analytics)**		**PSO1:** Understand the basic concepts of Economics, Accounting, Auditing, Financial analysis, Banking, Business and Tax laws **PSO2:** Developing appropriate methods for capturing and documenting data for business system development P**SO3**: Apply Descriptive, Predictive and Prescriptive analytics tools for business problem solving
24	Bachelor of Business Management **(BBM)**		**PO1: Demonstrate** Conceptual Knowledge in Principles, Theories, Models of Management for general operations in the real business World. (Academic excellence) **PO2**: **Develop** leadership, Interpersonal and Problem-solving

		skills with an experiential learning to face the real business Challenges. (Skill Enhancement) **PO3**: **Acquire & Integrate** Knowledge of tools of business Administration for analyzing, investigating and solving business issues. (Multi-Disciplinary) **PO4**: **Integrate** the skill sets acquired into lifelong learning to be an empowered independent woman. (Lifelong Learning) **PO5**: **Facilitate** ethics and value-based principles in	

		business for prudent decision making (Ethics and Values)	
25.	Master of Business Administration **(MBA)**	**PO1**	Demonstrate knowledge of management principles and framework for application in real-world business
		PO2	Develop leadership, decision- making, and interpersonal skills to succeed in a multidisciplinary environment
		PO3	Resolve complex corporate issues using logical reasoning, critical thinking, and innovative strategies in various functional areas
		PO4	Apply ethical and value-based principles for making prudent managerial decisions.
		PO5	Engage in Lifelong learning to be empowered, independent women
26.	Master of Computer Application **(MCA)**	**PO1**	Foster the students to be globally competent, committed and excel towards the contemporary IT tools.

		PO2	Nurture comprehensive learning and innovative approach that enhances the analytical skills
		PO3	Inculcate the ability to develop and renew scientific competence and problem solving skills.
		PO4	Apply at work a professional context pertaining to ethics, social culture and cyber regulations.
		PO5	Impart professional skills for global employability and life long learning.
27.	Master of Commerce **(M. Com.)**	**PO1**	Acquire conceptual, applied and research skills and competencies required for problem solving and right decision making.
		PO2	Provide logical, analytical and reasoning abilities with a multi disciplinary approach.
		PO3	Sensitize ethical and social values and provide for all-round development.
		PO4	Provide guidance to plan and undertake independent application-oriented research in the chosen specialization. Provide guidance to plan and undertake independent application-oriented research in the chosen specialization.
		PO5	Identify, assess and shape women entrepreneurial opportunities for lifelong business success.
28.	**M.Sc. Chemistry**	**PO1**	Demonstrate comprehensive knowledge and understanding of concepts/Principles in organic, In-organic and Physical chemistry.

		PO2	Identify chemistry related problems, analysis and application of data using appropriate methodologies.
		PO3	Inculcate scientific attitude enriched with multidisciplinary perspective
		PO4	Apply subject knowledge for sustainable environment friendly green initiatives.
		PO5	Demonstrate the ability to conduct research and pursue further higher studies in Chemistry.
29.	**M.Sc. Clinical Nutrition and Dietetics**	**PO1**	Acquire and apply the evidence based scientific knowledge of basic health sciences, nutrition, dietetics and lifestyle modifications in prevention, control and management of health.
		PO2	Provide normal and therapeutic nutrition education and counseling by applying technical skills, knowledge of health behavior, clinical judgment and while assessing and evaluating the nutritional status of individuals, groups and communities using a variety of communication strategies.
		PO3	Utilize advanced principles of health literacy, including critical thinking skills, literature searches, data collection and interpretation, necessary for implementation of food and nutrition services in professional settings.
		PO4	Gain competency to establish consultancy and entrepreneurship units in diverse health sectors aimed at promotion of normal nutritional status and in

			treatment of nutritional disorders.
		PO5	Develop the ability to carry out research projects, accurately interpret data and research literature to solve health and nutrition problems of the community.
30.	**PG DIPLOMA IN NUTRITION AND DIETETICS**	**PO1**	Possess and apply the knowledge of basic health sciences, nutrition, dietetics and lifestyle modifications in prevention, control and management of health
		PO2	Apply necessary skills and attitude in assessing nutritional status and managing health & disease conditions in a community and hospital settings including special groups.
		PO3	Provide nutrition counseling and education to individuals, groups and communities throughout the lifespan using a variety of communication strategies.
		PO4	Pursue higher education and research so as to engage in self motivated learning.

Course Outcomes

I. B. A. : Course Outcomes				
1.	**PSY 101**	General Psychology	CO1	**Understand** the diversity of the domains covered in psychology.
			CO2	**Evaluate** basic processes of human behavior and everyday life.
			CO3	**Evaluate** basic processes of human behavior and everyday life.
			CO4	Classify tools for understanding and regulating motivation/ emotion through various theories
2.	**PSY 202**	Personality theories & assessment	CO1	**Understand** the process of different factors influencing personality
			CO2	Practical testing of the concepts
			CO3	**Appraise** the methods used to assess personality and the theories of personality.
			CO4	**Classify** various psychological tests
3.	**PSY 303**	Social Psychology	CO1	**Develop** the ability to use certain fundamental concepts and principles involved in human behavior
			CO2	**Develop** a critical attitude toward all social generalizations, and an ability to evaluate them based on the evidence
			CO3	**Identify** underlying causes and impact of social influence and develop a skill of social marketing
			CO4	**Understand** which personality and individual difference factors make some people more likely to help than others and the damaging effects of aggression
4.	**PSY 404**	Abnormal Psychology	CO1	**Define** and distinguish abnormality and understand classification of disorders
			CO2	**Identify** to what extent biological, cognitive and socio-cultural factors influence abnormal behavior
			CO3	**Identify** and diagnose eating disorders

			CO 4	**Understand** and diagnose the psychopathological Conditions
5.	**PSY505**	Child Psychology	CO 1	**Understand** the processes involved in psychological growth and change
			CO 2	**Identify** with their childhood and development and learn hazards of infancy and childhood
			CO 3	**Understand** this developmental period and effectively communicate ideas related to the psychology of adolescence. It helps them increase personal awareness of their adolescent experience
			CO 4	**Identify** the hazards of development and the influence of culture and society
6.	**PSY 606**	Health Psychology	CO 1	Test the biopsychosocial model of health
			CO 2	**Analyze** the various cardiovascular and chronic diseases
			CO 3	Assess pain management techniques
			CO 4	**Evaluate** patient-provider communication
7.	**LIT101**	Introduction to English Language and Literature	CO 1	**Explain** the significant developments in the history of English and how English language has changed over time from its origin to the present day
			CO 2	**Comprehend** the significance of Elizabethan literature and the writers belonging and its impact on literary works produced world over.
			CO 3	**Comprehend** the significance of Elizabethan literature and the writers belonging and its impact on literary works produced world over.
			CO 4	**Comprehend** the significance of Elizabethan literature and the writers belonging and its impact on literary works produced world over.
8.	**LIT202**	English Poetry	CO 1	**Demonstrate** a skillful use or knowledge of major poetic devices, such as metaphor, imagery, lineation, persona, types of rhythm, rhyme and other sonic effects and understand Poetic devices as tools that a poet can use to create rhythm, enhance a poem's meaning, or intensify a mood or feeling.

			CO 2	**Distinguish** the use of classic poetic forms, such as the sonnet, the ode, and the elegy, as well as other contemporary, experimental, or avant-garde forms.
			CO 3	**Discuss** the significance of the historical period on the poem by analyzing the effects of the major events of the period.

			CO 4	**Identify** the Romantic Movement and its implications in the works of second generation Romantic poets-Keats and Shelley while thoroughly examining prescribed text like "Ode To a Nightingale".
9.	**LIT202**	English PoetryI	CO 1	**Demonstrate** a skillful use or knowledge of major poetic devices, such as metaphor, imagery, lineation, persona, types of rhythm, rhyme and other sonic effects and understand Poetic devices as tools that a poet can use to create rhythm, enhance a poem's meaning, or intensify a mood or feeling.
			CO 2	**Distinguish** the use of classic poetic forms, such as the sonnet, the ode, and the elegy, as well as other contemporary, experimental, or avant-garde forms.
			CO 3	**Discuss** the significance of the historical period on the poem by analyzing the effects of the major events of the period.
			CO 4	**Identify** the Romantic Movement and its implications in the works of second generation.Romantic poets-Keats and Shelley while thoroughly examining prescribed text like "Ode To a Nightingale"
10.	**LIT303**	English Drama	CO 1	**Comprehend** the historical factors at work in the representative dramas of the 17th, 18thup to the early 20th century.
			CO 2	**Analyze** drama in terms of the language, characters, and themes of the Age.
			CO 3	**Demonstrate** knowledge of various kinds of British Drama from 17th c. to early Modern Age.
12.	**LIT 303**		CO 4	**Critically appreciate** the theme-based One-Act plays of early 20th c.

13.	**LIT 404**	English Fiction	CO 1	**Study** and understand the genre of British Fiction especially the evolution of the novel from the 17th c. to the 20th c.
			CO 2	**Analyze** the narrative technique of the epistolary, realistic and dystopian novel in various Ages.
			CO 3	**Critically analyze** the short story with reference to Elements of fiction i.e., Story, Plot, Characters, Atmosphere.
			CO 4	**Comprehend** the major themes and characteristics of the past vis-a-vis the Modern writers of the Victorian and Modern ages and the inter textuality of both.
14.	**LIT505**	Modern Indian Literature	CO 1	**Analyze** the role of English as a medium for political awakening.
			CO 2	**Explore** various genres of Indian Literature.
			CO 3	**Understand** the history of Modern Indian Literature.
			CO 4	**Identify** the relationship between Indian writing in English and its social context.
15.	**LIT506B**	**Women's Writing**	CO 1	**Identify** the contemporary women writers of various genres.
			CO 2	**Understand** and get acquainted with the feminist dictionary vocabulary.
			CO 3	**Comprehend** and gather information on various women's rights and movements.

			CO 4	**Exposure** and sensitization to not only Indian but worldwide women's rights.
16.	**LIT 607**	American Literature	CO 1	**Identify** the various perspectives of race, gender and socio-economic class
			CO 2	**Explore** the background of civil war and transcendentalism
			CO 3	**Emphasize** the significance of American Dream
			CO 4	**Understand** the social, cultural and historical elements of American Literature
17.	LIT 608A	English for Academic and Professional purposes	CO 1	**Comprehend** active listening and Paraphrasing
			CO 2	**Enhance** public speaking and presentation skills
			CO 3	**Explore** creative resources of language in Fiction
			CO 4	**Analyze and identify** the imaginative and rhetoric in critical reading
18.	**PUB 101**	Introduction to	CO 1	Understand the evolution, nature,scope of public administration.
		Public Administration	CO 2	Understand the evolution, nature,scope of public administration.
			CO 3	To Understand the Classical theories of public administration
			CO 4	To Understand the Classical theories of public administration
19.	**PUB 202**	Development	CO 1	Appreciate the Concepts of Hierarchy, Administrative planning ,Leadership and supervision.

		Dynamics and Emerging Trends	CO 2	To Understand and analyze the comparative, development and new public administration
			CO 3	Understand the Concepts of public choice, New public Management from Management Perspective
			CO 4	Understand the Concepts like public Policy,Governance and the role of public services in Telangana.
			CO 5	Understanding the concepts of Globalization and public administration.
20.	**PUB 303**	Union Administration	CO 1	Analyze the evolution of the Indian Administration and the constitutional framework.
			CO 2	Analyze the role of president, prime minister, attorney general, Cabinet, Secretariat in the Indian Administration.
			CO 3	Understand the Centre-state relations, role of All-India Services
			CO 4	Understand the role of Election Commission, CAG,UPSC, NITI Aayog.
			CO 5	Understanding the Role of Lokpal, Lokayukta, CVC and Right to information act 2005.
21.	**PUB 404**	State Administration and Emerging Issues	CO 1	Understanding the administrative History of Telangana, Analyze the role of Governor, Chief minister
			CO 2	Analyzing the role of Secretaries, Directorates. understanding District Administration of Telangana
			CO 3	Understand the administrative reforms commission and its importance.
			CO 4	Understand the Concept of E-governance and its Case Studies
			CO 5	Understanding the Administrative Accountability peoples Participation and Civil Society.

22.	**PUB 505**	Human Resource Management	CO 1	Understanding the Nature, Scope, Importance of Human resource Management and Human resource planning.
			CO 2	Understanding the concepts of office management, Compensation Management, Functions of HRM.
			CO 3	Understand Human resource development, training, performance appraisal and Total quality Management
			CO 4	Understand Employee Grievances, Voluntary retirement, Outsourcing and Skill development
23.	**PUB 607**	Financial and Material Resource Management	CO 1	Understanding the Meaning, Nature, Scope and Importance of Financial Management.
			CO 2	Understanding the concepts, principles, preparation, Enactment of Budget.
			CO 3	Understand the structure of Finance ministry and functioning of different parliamentary Committees
			CO 4	Understanding the Concepts of material management, procurement, inventory Storage.
24.	**HIS 101**	Ancient Times	CO 1	To introduce the basics of Ancient Indian History
			CO 2	Knowledge of civilizations of different ages
			CO 3	**To learn** about the literary sources of ancient history of india
			CO 4	**To learn** about the stone age,hunting and gathering culture
27.	**HIS 202**	Ancient times after 650 c.e.	CO 1	**To enable** the students about the social, economic and political conditions of the Delhi sultanate
			CO 2	To make them aware about the Ghor Invasions
			CO 3	To teach the state policy of Raziya Sultan
			CO	To enable them to learn about the various reforms brought out but by Allaudin Khilji

			4	
28.	**HIS 303**	Indian medieval Indian history	CO 1	The course enables the students about the rise and fall of Mughal Empire
			CO 2	To make them aware about the Mughal Administration
			CO 3	To give knowledge about rise of sikhism
			CO 4	To make them to compete about the various competitive examinations
29.	**HIS 404**	Indian Medieval History	CO 1	To give information about the India's struggle for independence
			CO 2	To teach about the socio-religious reform movements in India
			CO 3	To enable them to learn about the factors leading to nationalism
			CO 4	To make them aware about the Gandhian movement
30.	**HIS 505**	World History	CO 1	To enable the students to learn about the world history
			CO 2	Helpful in getting jobs in UNO
			CO 3	To enable them to learn about various revolutions and reforms
			CO 4	To make them aware about the age of enlightened despotism
31.	**HIS 606**	World History	CO 1	To create awareness about world history in the 19th century
			CO 2	Helpful in writing various competitive examinations
			CO 3	To make them aware about the two World Wars
			CO	To enlighten them about UNO

			4	

34.	**ECO 101**	Micro Economics	CO1	**Understands** the Economic behavior and methodology of micro economics.
			CO2	**Understand** how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of a good produced.
			CO3	**Analyze** the Consumer behavior and his preferences based on his utility and apply economic reasoning to individual and firm behavior.
			CO4	**Understand** the factors affecting market demand and price. Explores the objectives of a business firm and nature of Production.
35.	**ECO 202**	Micro Economics II	CO1	**Evaluate** the Revenue and Cost of a firm and understand how equilibrium attains
			CO2	Know the types of Markets and its price determination under different time and competitive markets.
			CO3	**Examines** the working of factors of production and its income distribution.
			CO4	**Understand**s the different theories of Pricing and pricing strategies of factors of production
36.	**ECO 303**	Micro Economics III	CO1	**Understand** why household, business, government and global behavior determine the aggregate demand for goods and services
			CO2	**Understand** why the behavior of businesses and the rest of the world determine the aggregate supply of goods and services
			CO3	**Analyses** the basics of national income accounting and examines the green accounting
			CO4	**Understand** the causes and consequences of business cycles. Use their knowledge about financial instruments, macroeconomic policy and the mechanics of finance to develop optimal hedging, speculation, risk management, and portfolio allocation strategies
37.	**ECO 404**	Indian Economy	CO1	**Understand** the pace and course of Indian economic development and the socialistic pattern of society through **economic** growth with self-reliance, social justice and alleviation of poverty.
			CO2	**Understand** the development of Indian economic institutions and policies.
			CO3	**Develop** a perspective on the different problems and approaches to economic planning and Working of Planning commission and understands the formation of NITI AYOG

			CO4	**Understand** the role of the Indian Economy in the global context, and how the different factors have affected the process of Economic Growth
38.	**ECO 505**	Agricultural Economics	CO1	**Learns** the economics principles and their applications production. Train the students in production economics tools for agricultural decision making
			CO2	**Acquire** knowledge and analytical skills in addressing the issues of agricultural marketing. Expertise in improving the performance of the marketing institutions and the players in marketing of agricultural commodities.
			CO3	Gain knowledge relating to disbursement of institutional finance to priority sector, credit management and financial risk management. Acquire the basic knowledge on various appraisal techniques in investment of agricultural projects
			CO4	Knowledge on various appraisal techniques of agricultural investment projects Understanding, the role, mechanism and value of commodity futures markets for price risk management and price discovery in the Indian commodity markets.
39.	**ECO 606**	International Economics	CO1	**Understand** the various reasons why countries engage in international trade, including the direction and volume of trade between nations.
			CO2	Use models of trade to demonstrate the gains from exchange as well as the effects on income distribution within countries due to trade with foreign nations.
			CO3	**Understand** how international factor mobility affects an economy. Analyze current issues and policies using the concepts of international trade theory.
			CO4	**Understand** the key role international institutions play in affecting trade flows across the world.
40.	**POL 101**	Understanding Political Theory	CO1	Formulate ideas on Political Science and Political Theory.
			CO2	Define the elements of the state and evaluate the theories of the origin of the state.
			CO3	Analyze the theoretical perspectives and political ideologies.
			CO4	Infer, interpret the political concepts and also discuss about the various organs of the government, political parties, media etc.
43.	**POL 202**	Western Political Thought	CO1	Classify, illustrate and interpret Western Political Philosophy

			CO 2	Infer, discuss, debate and repeat political thought of ages.
			CO 3	Summarize the Philosopher views of the world
			CO 4	use ideas and demonstrate them to solve issues
4 4.	**POL 303**	Indian Political System	CO 1	Discover sources, explain the concepts and classify Indian Political Thought.
			CO 2	Learn to interpret and construct the meaning of ancient, medieval, modern, reformist, nationalist and socialist Indian Political traditions
			CO 3	Prepare themselves to debate, evaluate, criticize, repeat and discover solutions within the domain of the discipline
			CO 4	Appreciates, demonstrates and values enquiry to the discipline of Indian Political Thought.
4 5.	**POL 404**	Constitution & Politics of India	CO 1	Demonstrate and relish the memories of Indian Freedom Struggle.
			CO 2	Interpret the principles of government and administration based on Indian Constitutional law.
			CO 3	Defend, debate, criticize and seek to value the dynamics of administration.
			CO 4	Formulate measures to interpret the current challenges in governance.
4 6.	**POL 505 A**	International Relations	CO 1	Define, explain, classify, distinguish and interpret International Relations, its evolution, scope, theories and concepts
			CO 2	Construct debate and discover the utility of concepts of International Relations
			CO 3	Infer the transitions in the world systems.
			CO 4	Illustrate, question and evaluate the existing world order and prepare the learners to devise measures for a better future.
4	**POL**	American	CO 1	Define, explain and demonstrate the basic principles of the Presidential system of Government.

7.	**506A**	Government & Politics	CO 2	Summarize and reproduce on the finer elements of American Political Culture, democracy and public opinion
			CO 3	Debate on the origin of Indian Diaspora and discover the Political engagement and formulate ideas on their significance.
			CO 4	Select, experiment, demonstrate, criticize and evaluate and construct ideas of the theoretical and empirical nature of the American Political System.
4 8.	**POL 506 B**	Election Studies	CO 1	Outline electoral politics in general and India in particular
			CO 2	Categorize, compare, deconstruct and apply the various methods of Election studies and examine the key issues related with elections.
			CO 3	Assess and make informed judgments about constitutional machinery and current electoral issues and role of political parties.
			CO 4	Connect, deconstruct, rate and support the information.
4 9.	**POL 607**	International Relations	CO 1	Explain, generalize, criticize and estimate the Global Political Economy and International Security.
			CO 2	clarify, interpret and outline the emerging issues in International Relations
			CO 3	Discuss, illustrate, integrate and review the international system
			CO 4	Identify, interpret and implement a critical knowledge of International Relations.
5 0	**POL 608**A	American Government & Politics	CO 1	Retrieve the role of the USA from the past to the present.
			CO 2	Estimates, restates and demonstrates the response of USA towards National Security and Global Terrorism
			CO 3	Argues, criticize and evaluate the foreign policy objectives of the USA.

			CO 4	Identify, infer and explain the role of the USA towards global security and representation of the USA in the UNO.
5 1	**POL 608B**	Election Studies	CO 1	Compare, predicts and generalize the role of media in electoral process
			CO 2	Recall, estimate and infer the nature of electoral violence.
			CO 3	Demonstrate, relate and translate the practices that obstruct the democratic process.
			CO 4	Engage the students in basic research by computing, analyzing, contrasting and presenting a critical appraisal of the election process.

II. B.Sc. Biological Sciences
Course Outcomes

V. B.Sc. Biological Sciences: Course Outcomes

S. No.	Course code	Course Title	Course outcomes	
1.	BOT 101	Microbial Diversity and Lower Plants	CO1	Identify microorganisms, lower plants and their role in various environments
			CO2	Describe the structure and reproduction of microorganisms and lower plants
			CO3	Apply the knowledge of plant pathology in identifying and controlling plants diseases
			CO4	Analyze evolution of stele, heterospory and seed habit
	BOT 111	Microbial Diversity and Lower Plants	CO1	Apply techniques of sectioning and staining for internal study of plant parts
			CO2	Prepare and observe the plant material and slides under microscope
2.	BOT 202	Gymnosperms, Taxonomy Of Angiosperms and Ecology	CO1	Identify the economically important gener of Gymnosperms and Angiosperms
			CO2	Explain the structure, life cycle and distribution of Gymnosperms
			CO3	Classify the components of diverse ecosystems
			CO4	Collect Plant twigs and prepare Herbarium
	BOT 212	Gymnosperms,	CO1	Differentiate plant communities (Hydrophytes, Xerophytes, Mesophytes and

		Taxonomy Of Angiosperms and Ecology		Halophytes)
			CO2	Prepare Herbarium by collecting, identifying and classifying plants
3.	BOT 303	Plant Anatomy and Embryology	CO1	Recognise the importance of plant anatomy and embryology
			CO2	Illustrate anomalous secondary growth, polyembryony and apomixis in plants
			CO3	Analyze the internal organization of plant tissues and tissue systems
			CO4	Develop the skill to collect and identify different types of timber
	BOT 313	Plant Anatomy and Embryology	CO1	Analyze organoleptic and microscopic characters to identify plants.
			CO2	Prepare temporary and permanent slides of stems, leaves, pollen grains,embryos
4.	DSEC 302	Nursery and Gardening	CO1	Identify the diversity of plants and select garden types
			CO2	Distinguish the various resources required for the development of nursery
			CO3	Apply the vegetative propagation methods to grow plants
			CO4	Develop the skill of cultivation of vegetable and ornamental plants
5.	BOT 404	Cell Biology, Genetics & Plant Physiology	CO1	Recognise the types of Mushrooms
			CO2	Demonstrate the Mushroom culture technique
			CO3	Categorize the nutritional values of Mushrooms
			CO4	Develop the skill to produce edible mushrooms
	BOT 414	Cell Biology, Genetics & Plant Physiology	CO1	Analyze organoleptic and microscopic characters to identify plants.
			CO2	Prepare temporary and permanent slides of stems, leaves, pollen grains, embryos.
6.	DSEC 404	Mushroom culture technology	CO1	Recognise the types of Mushrooms
			CO2	Demonstrate the Mushroom culture technique
			CO3	Categorize the nutritional values of Mushrooms
			CO4	Develop the skill to produce edible mushrooms
7.	BOT505A	Biodiversity & Conservation	CO1	Define biodiversity and relate it to ecosystem stability
			CO2	Predict the threats to plant biodiversity
			CO3	Relate methods of conservation of to protect the plants
			CO4	Analyze complex interactions of ecosystems
	BOT 515 A	Biodiversity & Conservation	CO1	Analyze and interpret the distribution of plant species using quadrat method
			CO2	Demonstrate the medicinal value of medicinal plants
8.	BOT505B	Economic Botany	CO1	Describe economic importance of millets, cereals, legumes, fruits, nuts, beverages, oils, drug yielding plants.
			CO2	Differentiate the products obtained from these plants

			CO3	Evaluate the nutritive values of millets, cereals, legumes, fruits, nuts and oils
			CO4	Collect spices of economic importance
	BOT515B	Economic Botany	CO1	Evaluate the nutritive value of cereals, pulses and nuts.
			CO2	Prepare Herbarium of economically useful plants
9.	BOT 505 C	Seed Technology	CO1	Recognise seed borne disease
			CO2	Describe the process of seed germination
			CO3	Analyze types, causes and methods of breaking seed dormancy
			CO4	Develop the skill to collect and store different types seeds
	BOT 515 C	Seed Technology	CO1	Demonstrate seed dressing using biofertilizers and fungicides
			CO2	Test pollen and seed viability
10.	BOT 606 A	Tissue Culture and Biotechnology		Recognise the importance of plant tissue culture
			CO2	Summarize the different types of culturing techniques and recombinant DNA technology
			CO3	Relate r DNA technology to produce transgenic plants
			CO4	Compare the methods of gene transfer
	BOT 616 A	Tissue Culture and Biotechnology	CO1	Describe the structure of nucleic acids.
			CO2	Estimate DNA by diphenylamine reagent /UV Spectrophotometry.
11.	BOT 606 B	Plant Molecular biology	CO1	Describe the structure of DNA, RNA, Chromatin, Ribosomes
			CO2	Differentiate nuclear, chloroplast and mitochondrial DNA
			CO3	Justify the triplet Genetic code
			CO4	Make models of macromolecules (DNA, RNA and Proteins)
	BOT 616 B	Plant Molecular biology	CO1	Describe the structure of nucleic acids.
			CO2	Estimate DNA by diphenylamine reagent / UV Spectrophotometry.
12.	BOT606 C	Analytical techniques in Plant sciences	CO1	Describe the concept of microscopy, centrifugation, chromatography, Spectrophotometry, crystallography, electrophoresis techniques
			CO2	Apply biostatics to interpret the experimental data
			CO3	Classify the methods of sample preparation for electron microscopy
			CO4	Integrate the data to generate graphs
	BOT 616 C	Analytical techniques in Plant sciences	CO1	Demonstrate Blotting techniques
			CO2	Separate and estimate proteins
13.	BOT607	Project/	CO1	Apply the knowledge to design an experiment and execute

		optional paper/online course	CO2	Analyze the data and draw conclusions
			CO3	Compile and summarize the data in to a research paper
			CO4	Develop scientific attitude and creative thinking significant to society
	BOT 617	Project/optional paper/online course	CO1	Analyze and interpret the results of the experiment and draw conclusions
			CO2	Design and execute the experiment
14.	BOT607	Horticulture	CO1	Understand the importance of horticultural crops
			CO2	Apply the methods of natural propagation for growing crops
			CO3	Evaluate the role of hormones, fertilizers in crop production
			CO4	Create – Grow plants through Hydroponic, Bonsai and landscape designs
15.	ZOO 101	Animal diversity Invertebrates	CO1	Understand about invertebrate phyla.
			CO2	Classify invertebrates under various phyla based on their characters.
			CO3	Analyze the gradation of organism – Unicellular to Multi cellular.
			CO4	Explain the diversity of Animals
	ZOO 111	Animal diversity Invertebrates	CO1	Perform dissection of Nervous System of Prawn.
			CO2	Identify the specimens of invertebrate organisms.
16.	ZOO 202	Animal diversity Vertebrates	CO1	Demonstrate diversity of animals from evolutionary & ecological prospective.
			CO2	Differentiate between Non-chordates and chordates.
			CO3	Describe the morphology of Vertebrates.
			CO4	Compare the Anatomy of different classes of Vertebrates.
	ZOO 212	Animal diversity Vertebrates	CO1	Perform dissection of Cranial Nerves of fish.
			CO2	Perform dissection of fish virtually.
17.	ZOO 303	Animal Physiology and Animal behavior	CO1	Analyze the physiology of animals.
			CO2	Describe the steps involved in the metabolic process.
			CO3	Compare behavioral patterns in different animals.
			CO4	Perform research on behavior of different animals under various circumstances.
	ZOO 313	Animal Physiology and Animal behavior	CO1	Perform an experiment to demonstrate different types of excretory material, Carbohydrates and Proteins.
			CO2	Assess the amount of Hb in human blood sample.
18.	ZOO 404	Cell Biology, Genetics and Developmental	CO1	Explain the structure and functions of animal cell.
			CO2	Identify various cellular organelles and describe their structure and functions.
			CO3	Explain the concept of Central Dogma of Molecular Biology.

		Biology	CO4	Identify stages of development in an embryo.
	ZOO 414	Cell Biology, Genetics and Developmental Biology	CO1	Identify stages of cell division.
			CO2	Solve problems on Mendelian Inheritance, Sex linked inheritance & blood grouping
19.	ZOO 505	Immunology and Animal Biotechnology	CO1	Gain the knowledge about structure and functions of Immune system.
			CO2	Explain the structure types and functions of immunoglobulin's.
			CO3	Understand the advanced techniques in Animal Biotechnology.
			CO4	Discuss the importance of biotechnology in daily life.
	ZOO 515	Immunology and Animal Biotechnology	CO1	Perform the experiment and identify their blood groups.
			CO2	Describe the advanced techniques in immunology.
20.	ZOO 506	Entomology	CO1	Outline the classification of class insecta.
			CO2	Describe morphology and anatomy of Insects.
			CO3	Differentiate types of agricultural pest
			CO4	Understand different vectors of Public health.
	ZOO 516	Entomology	CO1	Perform the dissection of mouth parts of the cockroach.
			CO2	Culture the beneficial insects on commercial scale
21.	ZOO 607	Ecology, Zoogeography, Evolution	CO1	Emphasize the importance of wild life conservation.
			CO2	Explain the biogeochemical cycles.
			CO3	Describe the characteristics of various Zoogeographical realms.
			CO4	Understand the concept & theories of Evolution.
	ZOO 617	Ecology, Zoogeography, Evolution	CO1	Identify zooplanktons in different water samples.
			CO2	Solve problems on Hardy-Weinberg law.
22.	ZOO 608	Aquatic Biology	CO1	Explain the impact of aquaculture and fisheries on society, the economy and natural environment.
			CO2	Will be able to differentiate about different types of aquatic ecosystems.
			CO3	Create awareness about challenges in aquaculture & fisheries.
			CO4	Students can demonstrate the basic technical skills necessary for work in aquaculture and fisheries.
	ZOO 618	Aquatic Biology	CO1	Perform experiment to assess the physico-chemical parameters in different water samples.
			CO2	Describe about instruments used in Limnology

23.	CHE101	Qualitative analysis – Semi-micro analysis of salt mixture	CO1	Describe general properties and periodic trends of main group elements and synthesis of compounds
			CO2	Explain electronic effects operating in organic molecules and its application on chemical properties and write mechanisms for reactions of acyclic and aromatic hydrocarbons
			CO3	Derive s.wave equation, explain laws of Liquid and gaseous state and Solve problems
			CO4	Explain theories of qualitative and quantitative analysis and apply them in chemistry laboratory analysis, draw structures of isomers and molecular projections, state laws of crystallography and derive Bragg's equation
	CHE111	Qualitative analysis – Semi-micro analysis of salt mixture	CO1	Analyze given salt mixture and report cations and anions
			CO2	Apply concepts of qualitative analysis in salt analysis
24.	CHE 202	Quantitative analysis	CO1	Explain theories of bonding and draw structures and geometries of molecular species using theories of bonding, Describe general properties and periodic trends of d-block elements.
			CO2	Explain chemical properties and Write mechanisms for reactions of halogen compounds, hydroxy compounds, ethers, carbonyl compounds
			CO3	State laws of thermodynamics, explain their implications, solve problems on free energy, enthalpy, internal energy, work done, entropy, spontaneity, colligative properties
			CO4	Explain principles of quantitative analysis, classify titration methods, apply these theories in chemistry lab procedures - volumetry, gravimetry, Describe optical activity and apply CIP rules and determine configuration of molecules.
	CHE 212	Quantitative analysis	CO1	Develop the skill to Observe, analyze, record, report experimental data of titrations.
			CO2	Apply concepts of quantitative analysis in titrations.
25.	CHE 303	Synthesis of Organic Compounds	CO1	Explain - general properties and periodic trends of f-block elements, lanthanide separation. Name coordination compounds using IUPAC nomenclature; explain isomerism, theories of structure and bonding in d- metal complexes and metal carbonyls.
			CO2	Explain chemical properties and write mechanisms for synthesis and reactions of carboxylic, nitrogen compounds.
			CO3	Derive rate equations and rate constant equations for I, II, III, zero order, Solve problems on rate constant, half life and temperature effects, Explain collision theory, Jablonski diagram, State laws of

				photochemistry and calculate quantum yield
			CO4	Write reactions for synthesis and reactivity of active methylene compounds, solve problems on mean median and mode, classify errors in data analysis and draw and explain phase diagrams of single and multi -component system.
	CHE 313	Synthesis of Organic Compounds	CO1	Synthesize organic compounds through single step and two step reactions.
			CO2	Write the mechanism and explain the principle of organic synthesis.
26.	SEC 301	Methods for Pollution Prevention And Control	CO1	Describe different protocols for air, water and soil analysis
			CO2	Explain the causative factors and remedial measures for pollution.
			CO3	Inculcate eco-friendly practices in dailylife.
27.	SEC 302	Safety Rules in Chemistry Laboratory and Laboratory Reagents	CO1	Work efficiently in a lab by following lab safety rules and best practices.
			CO2	Calculate lab reagent concentrations, prepare lab reagents.
			CO3	Apply and connect concepts learnt in class to lab experiments
28.	CHE 404	Qualitative Analysis of Organic Compounds	CO1	Explain properties of Coordination complexes using CFT, list the importance of elements in biological systems, explain structure and functioning of haemoglobin and chlorophyll
			CO2	Name heterocyclic compounds using IUPAC nomenclature, write reactions explaining synthesis and reactivity of heterocyclic compounds, carbohydrates and amino acids
			CO3	Define types of conductance, explain laws and theories of conductance. Describe the construction and working of electro chemical cells, solve problems applying concepts of electrochemical series, Nernst equation.
			CO4	Explain bonding in metals using theories of bonding, differentiate conductors, insulators, semiconductors Define terms of synthetic strategies and classify colloids giving examples.
	CHE 414	Qualitative Analysis of Organic Compounds	CO1	Analyze the given functional group in the organic compound and report.
			CO2	Apply the knowledge of functional group reactivity in detection of functional groups.
			CO2	Calculate lab reagent concentrations, prepare lab reagents
			CO3	Apply and connect concepts learnt in class to lab experiments.
29.	CHE 505A	Experiments in Physical Chemistry -I	CO1	State Beer-Lamberts law, Explain the effect of light and matter interaction on various types of spectra and structure determination, Describe spectroscopic instrumentation and interpret spectra.
			CO2	Classify and define terminologies of drugs
			CO3	Explain drug- receptor interactions in body.

			CO4	Explain solvent extraction; define terms of chromatography, explain basic principles of chromatographic separations, working of instruments and list applications its techniques
	CHE 515	Experiments in Physical Chemistry -I	CO1	Develop the skill to Observe, analyze, record, report experimental data of chemical kinetics experiments
			CO2	Follow the procedure and arrange the experimental set up
30.	GE/IDC	Chemistry of Cosmetics, Food Processing Drugs and Pharmaceuticals	CO1	Explain the formulation and function of ingredients of various cosmetics.
			CO2	Test food samples for adulterants
			CO3	Describe different methods of food processing
			CO4	Identify and explain actions of drugs
31.	CHE 606 A	Experiments in physical chemistry - II	CO1	Explain the processes responsible for NMR, chemical shifts and splitting patterns. Describe the working of mass spectrometer and Interpret data of IR, UV, NMR, MS in elucidation of molecular structure.
			CO2	Draw the scheme of synthesis of drugs and therapeutic action of drugs in body
			CO3	Explain the action of hormones and vitamins in body
			CO4	Explain principle, working of GC, HPLC instrument and explain its applications
	CHE 616	Experiments in physical chemistry- II	CO1	Develop the skill to Observe, analyze, record, report experimental data of conductometric and potentiomeric titrations
			CO2	Follow the procedure and arrange the experimental set up.
32.		Project/ optional paper/online course	CO1	Design and execute an experiment based on literature survey.
			CO2	Analyze the experimental data and draw conclusions
				Compile and summarize the data in to a research paper
				Develop scientific attitude and creative thinking significant to society
33.	GEN 101	Transmission Genetics	CO1	Define and identify mendel's laws, gene interactions, linkage, cell cycle and chromosome morphology and structure
			CO2	Interpret segregation ratios, cross over data for gene mapping
			CO3	Solve and articulate the problems related to genetic ratios, gene interactions and multi factorial inheritance
			CO4	Illustrate and categorize chromosomal anomalies, non-mendelian inheritance and cell divisions and evaluate the effects of these phenomenon
	GEN 111	Transmission Genetics	CO1	Identify normal and mutant stocks of drosophila, stages of mitotic & meiotic divisions, salivary gland chromosomes, structural and numerical chromosome aberrations
			CO2	Solve the problems of mendelian segregation, multiple alleles, gene

				interactions, multifactorial inheritance, mapping of genes
34.	GEN 202	Molecular Genetics & Genetic engineering	CO1	Explain replication, repair, expression and regulation of genes
			CO2	Classify types of mutations and repair mechanisms
			CO3	Differentiate between prokaryotic and eukaryotic gene expression and regulation
			CO4	Design and criticize the models of molecular biology, genetic engineering, gene analysis and gene editing tools to be applied in agriculture, medicine and environment
	GEN 212	Molecular Genetics & Genetic engineering	CO1	Extract genomic DNA from different sources and separate it by gel electrophoresis
			CO2	Estimate quantity of DNA, RNA by UV spectrophotometry
35.	GEN 303	Biostatistics and Bioinformatics	CO1	Define terms and explain concepts in biostatistics and bioinformatics.
			CO2	Discuss difference between Descriptive and Inferential statistics.
			CO3	Apply standard formulae and tools in the analysis of data generated and retrieved from the sources of Biostatistics and Bioinformatics
			CO4	Evaluate biological phenomena through hypothesis testing.
	GEN 313	Biostatistics and Bioinformatics	CO1	Calculate central tendency and dispersion, probability distributions, hypothesis testing for given data
			CO2	Retrieve gene and protein sequences from different data bases for homology search by BLAST & FASTA
36.	III & IV DSEC	Clinical Cytogenetics	CO1	Discuss different cell culture techniques and cell preservation protocols , blood specimen collection & handling procedures
			CO2	Demonstrate chromosome banding techniques and handling of different types of microscopes
			CO3	Classify genetic syndromes with respect to numerical and structural anomalies of chromosomes
			CO4	Carry out FISH (Flouro In-Situ Hybridization), amniocentesis, Chorionic Villus Sampling (CVS), maternal screening biopsy for detection of syndromes.
37.	GEN 404	Population Genetics and Evolution	CO1	Comprehend concepts of population, genetic variation and equilibrium and forces affecting them
			CO2	Execute and establish Hardy Weinberg law, linkage disequilibrium and polymorphism
			CO3	Debate on the effects of inbreeding and effective population size, migration and molecular evolution
			CO4	Construct human pedigrees for genetic analysis and consequences

	GEN 414	Population Genetics and Evolution	CO1	Establish and test Hardy Weinberg disequilibrium, mutation equilibrium, selction leading to polymorphisms
			CO2	Construct pedigrees and estimation of inbreeding coefficients
38.	GEN 505A	Genetic Engineering & Technology	CO1	List out different techniques of genome analysis and relate them to a given application
			CO2	Translate the different protocols of rDNA technology and genetic engineering
			CO3	Compare and contrast different applications of the techniques involved in genetic engineering
			CO4	Design and criticize the models of genetic engineering to be applied in agriculture, medicine and environment
	GEN 515	Genetic Engineering & Technology	CO1	Separate and identify amino acids by paper chromatography and thin layer chromatography, DNA & RNA by electrophoresis.
			CO2	Experiment on restriction digestion, ligation to create recombinant Plasmid, amplification of DNA by PCR.
39.	GEN 506 A	Medical Genetics	CO1	Explain and interpret human genome organization, objectives and achievements of human genome project
			CO2	Describe and explain clinical pictures of different diseases and their management
			CO3	Analyze modes of inheritance of genetic diseases and role play it in mock genetic counseling.
			CO4	Evaluate the ethical concerns of prenatal diagnosis, gene therapy and stem cell technology in accordance with Indian and international guidelines
	GEN 516 A	Medical Genetics	CO1	Demonstrate diagnostic kits, lymphocyte culturing, karyotyping, PCR protocols and electrophoresis for identification of genetic disease
			CO2	Examine a case of genetic disorder and role play in mock genetic counseling for management of the patient's health and future consequences
40.	GEN 607	Biostatistics, Genetic equilibrium and Bioinformatics	CO1	Define terms and explain concepts in genetic variation and equilibrium, biostatistics and bioinformatics
			CO2	Evaluate biological phenomena through hypothesis testing
			CO3	Execute and establish Hardy Weinberg law and polymorphism
			CO4	Debate on the effects of inbreeding and effective population size, migration and molecular evolution
	GEN 617	Biostatistics, Genetic equilibrium and Bioinformatics	CO1	Calculate central tendency and dispersion, probability distributions, hypothesis testing for given data, retrieve gene and protein sequences from different data bases for homology search by BLAST & FASTA
			CO2	Establish and test Hardy Weinberg disequilibrium, mutation equilibrium, selection leading to polymorphisms

41.	GEN 608 A	Animal Genetics	CO1	Illustrate conventional breeding methods and embryo biotechiques for livestock improvement
			CO2	Discuss different protocols for animal tissue culture and trangenesis for animal improvement
			CO3	Appraise the role of animals as bioreactors for pharmaceutical products
			CO4	Design and develop models to create transgenic animals
	GEN 618 A	Animal Genetics	CO1	Prepare and sterilize media in animal cell culture.
			CO2	Identify markers by PCR amplification of DNA, and develop animal models for diseases.
42.	NUT 101	Nutritional Biochemistry I	CO1	Define the terms Food, Nutrition, Nutrients and classify different foods and explain Nutritional needs of the Body and role of nutrients.
			CO2	Outline the composition, classification of the carbohydrates, proteins and nucleic acids.
			CO3	Describe digestion and assimilation of nutrients and consequences of malnutrition
			CO4	Illustrate the metabolism of carbohydrates, proteins and Lipids through various catabolic pathways and Discuss Energy metabolism
	NUT 111	Nutritional Biochemistry I	CO1	Qualitatively analyze the different carbohydrates and amino acids
			CO2	Estimate the amount of reducing sugar quantitatively
43.	NUT 202	Nutritional Biochemistry II	CO1	Outline the functions. Sources, requirements and classification of vitamins, minerals, enzymes and hormones
			CO2	Illustrate the Physiological functions and relate to the deficiency of vitamins and minerals and Discuss Anemia-prevalence, causes, symptoms and management
			CO3	Explain the Inter-relationship between Calcium and vitamin D and water and electrolyte balance
			CO4	Elaborate the mode of action of enzymes and Effect of Hormones on metabolism
	NUT 212	Nutritional Biochemistry II	CO1	Qualitatively Analyze Proteins and minerals
			CO2	Estimate the quantity of Proteins, Ascorbic acid, calcium and determine the Saponification no. of oil
44.	NUT 303	Food Science and Preparation	CO1	Define the terms of food science such as foods, food group system, food pyramid, my food plate, phytonutrients Antioxidants & prebiotics etc.
			CO2	Describe and explain the structures and nutritional composition of various food groups such as Cereals, millets, Pulses, legumes, fruits and

				vegetables.
			CO3	Explain the processing techniques and the nutrient losses during processing of various food groups.
			CO4	Discuss the Selection and storage of various food groups and elaborate methods of prevention of spoilage of foods
	NUT 313	Food Science and Preparation	CO1	Explain the serving sizes of each food group.
			CO2	Calculate the Nutritive value per serving of given recipe using Food composition tables of ICMR.
45.	SEC 302	Food Preservation Techniques	CO1	Describe the basic Principles of food preservation, food spoilage and shelf life of foods and explain home scale and commercial methods of food preservation.
			CO2	Develop skills to prepare preserved products such as Jams, sauces, squashes, pickles etc to inculcate entrepreneurship skills.
46.	NUT 404	Nutrition Through Lifecycle	CO1	Recall the importance of Balanced Diet and Illustrate RDA RDI, Food exchange lists and basics of menu planning.
			CO2	Explain and identify the Nutritional needs, feeding problems and complications in all age groups
			CO3	Analyze the various physiological developments and changes during each phase of life from infancy to old age
			CO4	Discuss the various methods of nutritional assessment in a community.
	NUT 414	Nutrition Through Lifecycle	CO1	Plan balanced diets and create menu plans for all age groups as per the recommended dietary allowances
			CO2	Calculate and balance the Nutrients of the planned diets and provide the required number of servings which are sufficient to meet the nutritional needs of the population.
47.	SEC 404	Food Preservation Techniques	CO1	Describe the basic Principles of food preservation, food spoilage and shelf life of foods and explain home scale and commercial methods of food preservation.
			CO2	Develop skills to prepare preserved products such as Jams, sauces, squashes, pickles etc to inculcate entrepreneurship skills.
48.	NUT 505 A	Therapeutic Nutrition	CO1	Describe therapeutic diet, its principles and Role of a dietician in clinical setting.
			CO2	Classify diets based on different disease conditions
			CO3	Explain and identify the etiology of various diseases
			CO4	Elaborate and discuss the dietary management in several diseases
	NUT 515 A	THERAPEUTIC NUTRITION	CO1	Plan and create therapeutic diets for various clinical conditions.
			CO2	Calculate the Nutrients of the planned diets and modify the nutrients as per the medical condition of the patient.
49.	NUT 505	Food safety	CO1	Define the importance of food quality, food safety, quality assurance, and

	B	And quality Control		comprehensive quality management
			CO2	Discuss the laws governing the requirements for food safety and quality assurance
			CO3	Illustrate dangers of contaminants, and explain various methods for waste disposal and water filtration
			CO4	Analyze common adulterants in foods and explain health hazards of biological, chemical and metal intoxicants and food additives
	NUT 515 B	Food safety And quality Control	CO1	Analyze food samples for the presence of adulterants
			CO2	Detect contamination of food samples by microorganisms.
50.	IDC 501	Needful Nutrition	CO1	Name the nutrients and their functions in human health.
			CO2	Discuss various food groups and importance of Balanced diet
			CO3	Illustrate Deficiency of nutrients and its impact on health
			CO4	Explain role of nutrition in various life stages and in certain lifestyle disorders.
51.	NUT 606A	Public health, food Sanitation And hygiene	CO1	Define terms used in Public Health and disease epidemiology and Explain Modes of disease transmission, Vector control at individual or at community or at both levels
			CO2	Identify and categorize food borne illnesses and intoxications, their causes and Prevention.
			CO3	Explain Maternal and child health, primary health care and health indicators. Choose most appropriate tools of health promotion and nutrition education in a community
			CO4	Analyze the common food samples for adulteration and explain the importance of food Laws and their regulating bodies.
	NUT 616A	Public health, food Sanitation And hygiene	CO1	Identify adulterants in common foods and Create Audio Visual Aides for the purpose of imparting Nutrition education in a community setting.
			CO2	Plan and organize Nutrition Awareness programs among different target groups of the community, using AV aides prepared by them
52.	NUT 606 B	Institutional food Service Management	CO1	Describe the basics of management process in food service establishments
			CO2	Explain organization of space and equipment in food services establishment
			CO3	Illustrate types of food services establishment and plan various menus
			CO4	Formulate and standardize recipes and apply financial management

				techniques to develop entrepreneur skills
	NUT 616 B	Institutional food Service Management	CO1	Develop managerial and entrepreneurial skills to establish and manage a food service establishment or food business of their own
			CO2	Plan and organize quantity food production for various, populations, institutions and occasions.
53.	NUT 607	CLINICAL NUTRITION	CO1	Describe the Basics of Nutritional management of Hospitalized Patients
			CO2	Explain metabolic changes and Nutritional management in surgery and burns
			CO3	Illustrate the pathophysiology of various diseases
			CO4	Elucidate Nutritional management of the various disease conditions
54.	MIC 101	General Microbiology	CO1	Comprehend the fundamentals of microbiology, microbial growth & metabolism
			CO2	Demonstrate proficiency in microbiology laboratory safety and fundamental laboratory skills for culturing and identifying microorganisms
			CO3	Apply the knowledge of microbial structure, growth, and metabolism to the identification of an unknown microorganism
			CO4	Appraise beneficial and harmful aspects of microbes
	MIC 111	General Microbiology	CO1	
			CO2	
55.	MIC 202	Microbial Diversity	CO1	Describe basics of biodiversity, bacterial and eukaryotic diverse groups in microbial ecosystems
			CO2	Illustrate types of microorganisms based on their phylogeny, morphology, physiology and genomics.
			CO3	Apply knowledge of microbial diversity and techniques to predict their presence and role in different environments.
			CO4	Evaluate the microbial diversity of a habitat using culture dependent as well as the metagenomics approach.
	MIC 212	Microbial Diversity	CO1	
			CO2	
56.	MIC 303	Food, Dairy & Environmental Microbiology	CO1	Explain the role of microorganisms in food and dairy products & the microbes of environment (air & water).
			CO2	Classify/differentiate the microbes of food, water & air based on morphological, staining & biochemical characteristics.
			CO3	Value the role of microorganisms in food production, microbial interactions on the

				planet and their significance for achieving a sustainable agriculture.
			CO4	Apply the knowledge of food preservation techniques, safe water drinking practices & proper waste disposal methods
	MIC 313	Food, Dairy & Environmental Microbiology	CO1	
			CO2	
57.	MIC 404	Immunology & Medical Microbiology	CO1	Describe the concept of human immune system & the principles of pathogenecity
			CO2	Make decisions about the pathogenicity of organisms associated with human infections.
			CO3	Apply appropriate microbiology laboratory techniques & methodologies for identification of etiological agents.
			CO4	Explain in detail about the collection & transport of clinical specimens & modern methods of diagnosis
	MIC 414	Immunology & Medical Microbiology	CO1	
			CO2	
58.	MIC 505	Immunology & Chemotherapy	CO1	Acquire in depth knowledge on components of immune system, their development and specific functions and chemotherapeutic agents
			CO2	Demonstrate Skills in hematology, immunological techniques & antimicrobial susceptibility testing
			CO3	Apply the knowledge of serological techniques in Identifying pathogens and interpret how antibiotics interact with pathogens and inhibit them.
			CO4	Appraise the importance of immunodiagnosis, immunotherapy and chemotherapy.
	MIC 515	Immunology & Chemotherapy	CO1	
			CO2	
59.	SEC 1 MIC 506 A	Environmental & Agricultural	CO1	Understand how to isolate and identify microorganisms from the various sources – water to check the potability & waste water treatment, air by air sampling methods
			CO2	Elaborate on the positive and negative interactions of microorganisms in the soil
			CO3	Value the role of microbes in biogeochemical cycles, as biopesticides and biofertilizers
			CO4	Explain role of microbes in Biodegradation & Bioremediation
	MIC 516 A	Environmental & Agricultural	CO1	
			CO2	

		Microbiology		
60.	MIC 506 B	Food & Dairy Microbiology	CO1	Summarize the activities of microorganisms in food and dairy.
			CO2	Demonstrate skill for isolation and identification of microorganisms in food and dairy industry.
			CO3	Categorize the principles involving various methods of food preservation
			CO4	Assess the food and dairy quality with reference to microbial contamination
	MIC 516 B	Food & Dairy Microbiology	CO1	
			CO2	
61.	IDC 501		CO1	Basic Knowledge on invisible residents of human body and role they play
			CO2	Important Human Diseases and their causative agents
			CO3	Understanding on antimicrobial agents- natural & synthetic
			CO4	Acquire basic knowledge on use of microbes in production of economically important products that can help to manage a career
62.	MIC 607	Industrial Microbiology & Microbial Technology	CO1	Understand the techniques of discovering (new) useful microorganisms by various isolation, screening and strain improvement methods and store them reliably for later use.
			CO2	Develop understanding of various upstream processes like media formulation, sterilization, process control and selection of the appropriate fermentation process
			CO3	To gain knowledge about microbial production of various industrial products such as alcohols, Vitamins, enzymes, organic acids, Antibiotics, biofertilizers, biopesticides, vaccines and biofuel etc.
			CO4	Develop an understanding of downstream processes like detection and assay of the product, methods of recovery of the product and purification of the production.
	MIC 617	Industrial Microbiology & Microbial Technology	CO1	
			CO2	
63.	MIC608 A	Medical Microbiology	CO1	Understand properties of pathogenicity of organisms associated with human infections.
			CO2	Explain the Source, pathogenesis, clinical symptoms & prophylaxis of various infections through different sources
			CO3	Apply appropriate microbiology laboratory techniques & methodologies for identification of etiological agents
			CO4	Knowledge on collection & transport of clinical specimens & modern methods of diagnosis.
	MIC618	Medical		

		Microbiology		
64.	BCH 101	Chemistry of Biomolecules	CO1	Understand the concepts of chemical bonding, strong and weak interactions, hydrogen bonding and to identify these principles in various biomolecules and biological reactions.
			CO2	Correlate the structures of biomolecules with their functions
			CO3	Classify the different types of Biomolecules based on their structure, composition and functions
			CO4	Apply concept of stereochemistry in determining conformations of biomolecules
	BCH 111	Qualitative Analysis of Biomolecules	CO1	Understand and prepare Standard solutions and buffers.
			CO2	Analyse carbohydrates, lipids and amino acids qualitatively and determine pka and pkb values by titrating glycine.C
65.	BCH 202	Chemistry of Nucleic Acids and Biochemical Techniques	CO1	Understand the structures and functions of nucleic acids like DNA and RNA
			CO2	Explain the concepts of Supercoiling, Melting temperature renaturation & denaturation of DNA and apply the knowledge of COT curves in reassociation kinetics
			CO3	Correlate principles and applications of centrifugation & chromatography techniques like Paper, Thin layer, Gel filtration, Ion exchange & Affinity.
			CO4	Apply the principles of electrophoresis, colorimetry and spectrophotometry in research and industry.
	BCH212	Quantitative Analysis of Biomolecules	CO1	Determine concentrations of carbohydrates & proteins by colorimetry
			CO2	Separate and analyse Biomolecules using chromatography and electrophoresis techniques
66.	BCH 303	Bioenergetics, Biological Oxidations and Enzymology	CO1	Describe the principles of Bioenergetics, Biological oxidation and enzymes involved in context of a living organisms
			CO2	Categorize the electron carriers & illustrate the mechanism of electron transport chain, oxidative phosphorylation
			CO3	Classify Enzymes and describe their mode of action
			CO4	Analyze the different types of catalysis of enzymes & regulatory strategies of enzyme control.
	BCH313	Enzymology	CO1	Evaluate the activities of salivary α –Amylase, β-amylase from sweet potatoes, Urease and phosphatase Acid & alkaline (concept of pH).
			CO2	Determine optimum temperature, pH, Time and effect of Substrate concentration of amylase activity.
67.	BCH 404	Intermediary Metabolism	CO1	Explain the concepts and principles of intermediary metabolism
			CO2	Illustrate structural biochemical pathways of carbohydrates, Lipids, Amino acids &

				Nucleic acids
			CO3	Correlate and comprehend regulatory strategies of carbohydrate, Lipid, amino acid and nucleic acid metabolism
			CO4	Apply the concepts of metabolism in understanding biochemistry of cell in health and disease.
	BCH 414	Biochemical Preparations and Separations	CO1	Isolate biomolecules from various sources
			CO2	Separate and analyse Biomolecules using paper, thin layer and column chromatography
68.	DSE 1 BCH 505A	Physiology, Nutrition and Clinical Biochemistry	CO1	Explain the structures functions of Heart, muscle, eye, neuronal cell and understand their physiology & also the concepts of balanced diet, BMR, malnutrition, vitamins and phytonutrients
			CO2	Interpret the structure, physiological roles and disorders of all protein and steroid hormones
			CO3	Evaluate the biochemical profiles of heart, kidney, liver, thyroid and pancreas
			CO4	Apply the knowledge of physiology endocrinology, nutrition & clinical biochemistry in diagnosing and treatment of diseases
	BCH 515A	Physiology, Nutrition and Clinical Biochemistry	CO1	Analyse Blood samples for creatinine, cholesterol and determine RBC, WBC & Differential counts
			CO2	Analyse urine samples for albumin, sugars and ketone bodies
69.	SEC 1 BCH 505 B	Cell Biology, Genetics & Microbiology	CO1	Identify structure, function of cell, cell organelles and cell division, cell cycle
			CO2	Describe the principles of Mendelian and non mendelian inheritance & Classify mutations and mutagens
			CO3	Describe concepts of basic Microbiology Virology in diagnostics and research
			CO4	Apply the knowledge of Cell biology, Genetics and Microbiology in identifying microorganisms and their role in life
	BCH 515 B	Cell Biology, & Genetics & Microbiology	CO1	Prepare stages of mitosis and meiosis, culture media, sterilize media and glassware
			CO2	Solve problems on monohybrid, dihybrid ratio, linkage and recombination, sex linked inheritance and determine antibiotic sensitivity growth curve
70.	GE IDC 501	Health and Biomarkers	CO1	Understand the concepts of different types of Biochemical and genetic profiles
			CO2	Interpret the medical reports of biochemical and genetic profiles
			CO3	Apply the knowledge in preventing lifestyle disorders and diseases
			CO4	Appraise the learnt concepts in Health and wellness
71.	BCH 606A	Molecular Biology and	CO1	Distinguish prokaryotic and eukaryotic genomes and Interpret mechanisms of DNA replication, Transcription & Translation

		Immunology	CO2	Explain the concepts of gene regulation in prokaryotes and eukaryotes and Apply the knowledge of molecular biology in designing drugs to fight the pathogens/diseases
			CO3	Identify the structure & functions of immune cells, organs & Classify Immunity, Immunoglobulins
			CO4	Analyze the antigen antibody reactions, immunodiagnostics, Vaccines, Hypersensitivity & Apply the knowledge in diagnosis and treatment of diseases
	BCH 616A	Molecular Biology and Immunology	CO1	Estimate DNA, RNA, isolate DNA and plasmid DNA, analyse nucleic acids by electrophoresis.
			CO2	Demonstrate Agglutination: ABO and D Ag typing, ODD, ELISA - sandwich ELISA
72.	BCH 606 B	r-DNA	CO1	Comprehend the concepts of plant, animal microbial and environmental biotechnology
			CO2	Develop an understanding of the concepts of cloning, DNA sequencing, Tools of r-DNA technology
			CO3	Apply the knowledge in the production of recombinant products & in finding solutions to environmental problems
			CO4	Illustrate and compute the concepts of r- DNA technology in diagnostics, research & drug designing
	BCH 616 B	Molecular Biology and r-DNA Technology	CO1	Prepare MS medium and animal cell culture media to demonstrate cell disaggregation and counting, micropropagation of plants, microbial degradation of organic matter. Demonstrate efficacy testing for biofertilizers, municipal solid waste treatment and waste water treatment; production of hydrogen and methane.
			CO2	Perform Restriction mapping of Lambda DNA & Prepare Competent cells by transformation
73.		Project/ Core paper/online course	CO1	Apply the knowledge to design an experiment and execute
			CO2	Analyze the data and draw conclusions.
			CO3	Compile and summarize the data in to a research paper
			CO4	Develop scientific attitude and creative thinking significant to society
74.	BIT 101	Cell Biology and Genetics	CO1	Comprehend the cellular architecture
			CO2	Analyze the functioning of life at cellular level
			CO3	Describe the principles of Mendelian inheritance.
			CO4	Ability to apply Mendelian principles to humans, animals and plants
	BIT 111	Cell Biology and Genetics	CO1	Learn to Handle microscopes, staining techniques and observation of cell divisions
			CO2	Understand the concepts of heredity, genetic interactions and data interpretation.
75.	BIT 202	Biological Chemistry and	CO1	Explain the biological functions, structure, and interactions of biomolecules
			CO2	Discuss the basics of Bioenergetics

		Microbiology	CO3	Describe the functional concepts of microbiology and microorganisms
			CO4	Apply the learnt microbial techniques in the field of diagnostics
	BIT 212	Biological Chemistry and Microbiology	CO1	Acquire knowledge on estimation of biomolecules and biochemical assays.
			CO2	Enable students to get expertise in preparing media, handling microorganisms, and staining techniques.
76.	BIT303	Molecular Biology and Recombinant DNA Technology	CO1	Explain the concepts of DNA replication in prokaryotes and eukaryotes
			CO2	Describe the principles of genetic code, protein synthesis and gene regulation
			CO3	Explain the basic principles and tools and the techniques of genetic engineering
			CO4	Describe the applications of genetic engineering in various fields
	BIT313	Molecular Biology and Recombinant DNA Technology	CO1	Demonstrate quantification of DNA/RNA, restriction digestion and transformation
			CO2	Acquire practical skills in basic molecular biology techniques
77.	BIT 404	Bioinformatics and Biostatistics	CO1	Explore bioinformatic web portals, databases and tools
			CO2	Perform Multiple sequence alignment and phylogenetic relationship using bioinformatic tools
			CO3	Learn to estimate appropriate descriptive measures for a data in a given study
			CO4	Derive inferences based on statistical comparisons
	BIT 414	Bioinformatics and Biostatistics	CO1	Understand the basics of biological databases, sequence alignment and interpretation.
			CO2	Apply principles of statistics to analyze and interpret the data.
78.	BIT 505	Molecular Biology and Recombinant DNA Technology	CO1	Explain the concepts of DNA replication in prokaryotes and eukaryotes
			CO2	Describe the principles of genetic code, protein synthesis and gene regulation
			CO3	Explain the basic principles and tools and the techniques of Genetic engineering
			CO4	Describe the applications of genetic engineering in various fields
	BIT 515	Molecular Biology and Recombinant DNA Technology	CO1	Demonstrate quantification of DNA/RNA, restriction digestion and transformation.
			CO2	Acquire practical skills in basic molecular biology techniques.
79.	BIT506	Plant Biotechnology	CO1	Establish different types of plant culture
			CO2	Compare the pros and cons of transgenic plants on environment
			CO3	Explain the concepts of genetically modified crops
			CO4	Apply the technical skills learnt to establish nurseries for horticultural and agricultural

				crops
	BIT516	Plant Biotechnology	CO1	Demonstrate techniques of plant tissue culture.
			CO2	Acquire knowledge on gene transfer techniques for the production of virus free plants.
80.	BIT 607	Microbial Technology	CO1	Illustrate various aspects of biotechnological applications in fermentation industries
			CO2	Describe the principles underlying the fermentation process and its applications
			CO3	Integrate scientific and technological knowledge on the use of bioprocesses for industrial products
			CO4	Apply the practical skills for entrepreneurial development
	BIT 617	Microbial Technology	CO1	Acquire skills on fermentative productions of biomolecules, recovery and purification.
			CO2	Explore the knowledge on quality control and commercialization
81.	BIT 608	Environmental Biotechnology	CO1	Explain the concept of Pollution management
			CO2	Apply the concepts of Biotechnology in environmental Management
			CO3	Explore the knowledge on environmental sustainability
			CO4	Describe the importance of biomass and biofuels as a renewable source of energy
	BIT 618	Environmental Biotechnology and Biodiversity	CO1	Apply the techniques to determine the quality of water samples.
			CO2	Understand the role of microorganisms in maintaining a sustainable environment.

B.Sc. Physical Sciences : Course Outcomes				
1.	**MAT101**	Differential Equations	CO1	Remember first order differential equations and solve utilizing the standard techniques for separable, homogeneous, linear, Bernoulli, exact & integrating factors.
			CO2	Analyze to resolve the differential equations into equations solvable for p, x, y and Clairaut's equation and gains knowledge on applications of first order differential equations.
			CO3	Evaluate complete solution of a non homogeneous differential equation as a linear combination of the complementary function and a particular solution.
			CO4	Apply the solution of higher-order linear differential equations that can be solved by the techniques of variations of parameters, Cauchy-Euler, Legendre's & reduction of order and grasps the concept of the simplifying techniques for first order partial differential equations.
	MAT111	Differential Equations	CO1	Analyze different techniques in finding the solutions of first order differential equations.
			CO2	Attain knowledge of basic application problems described by second order linear differential equations with constant coefficients.
2.	**MAT202**	Differential & Integral Calculus	CO1	Understand the geometrical representation of a function of two variables and understands the solution of first order partial differential equations of homogeneous functions.
			CO2	Analyze the solution techniques on total differentials, composite, implicit & equality of functions and computes maxima and minima of functions of two variables.
			CO3	Evaluate radius, center & chord of curvature and analyzes the applications of evolutes, involutes and envelopes.
			CO4	Attain knowledge on lengths of plane curves, volumes and surfaces of

				revolution.
.	**M A T 21 2**	Differenti al & Integral Calculus	CO1	Analyze the geometrical representations in finding the solutions of first order partial differential equations.
			CO2	Attain knowledge in applications of evolutes, envelopes and surfaces of revolution.
3.	**M A T 30 3**	Algebra	CO1	Remember the elementary concepts of groups, subgroups, permutation groups, factor groups, isomorphisms and ideals.
			CO2	Understand the learned concepts to prove normal subgroups, cyclic group, ideals and ring homomorphism theorems.
			CO3	Apply mathematical proofs of subgroups, permutations, normal subgroups, fields and ideals.
			CO4	Analyze the concept of groups and rings catering to real life problems.
	M A T 31 3	Algebra	CO1	Apply the concepts to find the number of subgroups, normal subgroups, cosets of a finite group.
			CO2	Attain the concepts of commutative rings, ideals and ring homomorphisms.
4.	**M A T 40 4**	Real Analysis	CO1	Remember the concepts of sequence, continuity, differentiability and Riemann integration.
			CO2	Understand the properties of continuous functions, series, Mean value theorems and Fundamental theorem of calculus.
			CO3	Analyze continuity, derivatives and apply them in proving rigorous mathematical proofs.
			CO4	Apply results to the later topics, namely in Cauchy's sequences, Integral tests, Uniform Continuity and L- hospital rule.
	M A T 41 4	Real Analysis	CO1	Apply theorems to solve problems related to sequence and series, limits of functions and Taylor's theorem.
			CO2	Analyze the concepts of derivatives and integrations in real analysis which can be

				applied to practical problems
5.	**MAT505**	Linear Algebra	CO1	Acquire knowledge on Vector Spaces, Subspaces, linear Combination, Independent, Dependent Sets. Null Spaces, Column Spaces, Bases, Dimension of Vector Space in developing logical skills.
			CO2	Analyze results on Change of Basis, Characteristic Equations and apply them in solving Eigen values, Eigen vectors towards gaining analytical knowledge.
			CO3	Apply the concepts of Complex Eigen values and Eigen vectors in Differential Equations and matrices for a multi-disciplinary approach.
			CO4	Employ the concepts of inner product Spaces, Orthogonality and employ the concepts in Orthogonal projections and Gram Schmidt Orthogonalization process.
	MAT515	Linear Algebra	CO1	Analyze different concepts towards problem solving used in interdisciplinary approach.
			CO2	Evaluate research intelligence with scientific competency and problem-solving mind.
6.	**MAT-606**	Numerical Analysis	CO1	Learn different Numerical Methods to solve Algebraic and Transcendental Equations in developing logical skills.
			CO2	Acquire Knowledge to interpolate the Polynomials using Lagrange's Newtons, Gauss Central, and Inverse Interpolation and to determine the missing values towards gaining analytical skills.
			CO3	Analyze Curve fitting Concepts and employ Newton's Forward, Backward and Sterling's formulae to find first and second order Derivatives and will be able to analyze Numerical Integration Formulae to find Area and Volume for a multi-disciplinary approach.
			CO4	Employ Critical thinking in solving the Initial Value problems by Taylor Series, Picard's Method, Euler's method, and Runge –Kutta Method.
	MAT616	Numerical Analysis	CO1	Analyze different techniques in finding the solutions towards domain competency.
			CO2	Evaluate research intelligence with scientific competency and problem-solving mind.

7.	**MAT-607**	Mathematical Modelling	CO1	Acquire basic modeling skills that will have application to a wide variety of problems.
			CO2	Explore mathematical techniques that are applicable to models involving differential equations, and which describe rates of change.
			CO3	Realize some beautiful problems can be modeled by using differential equations.
			CO4	Evaluate mathematical techniques in solving differential equations.
8.	**STA 101**	Descriptive Statistics and Probability	CO1	Acquire knowledge of the importance of statistics in various domains, list various sources and types of data, identify scales of measurements, organise data and describe summary measures.
			CO2	distinguish between random and non-random experiments, define various approaches of probability, deduce results in probability and compute the probabilities of events using classical approach.
			CO3	explain discrete and continuous random variables and illustrate knowledge related to their probability distributions including expectations and moments.
			CO4	define expectation of discrete and continuous random variables, derive generating functions and solve them to obtain descriptive measures.
	STA 111	Descriptive Statistics and Probability	CO1	At the end of this practical course, a student will be able to do the following using MS Excel and R Programming demonstrate basic skills of MS - Excel and R programming, compute descriptive statistics, moments, coefficients of skewness and kurtosis and interpret the same.
			CO2	construct appropriate diagrams, graphs and identify outliers in a given data set
9.	**STA 202**	Probability Distributions	CO1	define Bernoulli trials
			CO2	demonstrate knowledge of important discrete and continuous distributions such

				as Binomial, Poisson, Geometric, Negative Binomial and Hyper-geometric, Normal, Uniform, Exponential, Cauchy, Gamma, Beta and distributions.
			CO3	evaluate generating functions for discrete and continuous distributions; derive their descriptive measures.
			CO4	express approximations of discrete and continuous probability distributions.
	STA 212	Probability Distributions	CO1	At the end of this course, a student will be able to fit Binomial, Poisson, Geometric, Negative Binomial and Hyper-geometric, Normal
			CO2	Exponential, Beta and Gamma distributions and draw the respective curves using MS Excel and R Programming.
10.	**STA303**	Linear Regression Analysis & Statistical Inference I	CO1	identify the types of data reflecting quality characteristics and explain the independence and association between two attributes.
			CO2	acquire knowledge of curve fitting using Legender's Principle of Least Squares, correlation for quantitative and ranked data, regression analysis, partial and multiple correlations.
			CO3	explain the basic concepts of estimation, exact sampling distributions and derive their interrelationships.
			CO4	define point and interval estimation procedures, identify a good estimator and construct confidence intervals.
	STA313	Linear Regression Analysis & Statistical Inference I	CO1	At the end of this course, student will be able to do the following using MS Excel and/or R Programming. Simulate random samples from Uniform (0,1), Uniform (a, b), Exponential, Normal and Poisson distributions, create contingency table and perform the analysis for attributes data.
			CO2	Analyse bivariate data – construct suitable mathematical relationships, perform simple linear regression analysis, compute multiple and partial correlation coefficients. Construct confidence intervals for mean.
11	**STA40**	Statistic al	CO1	Estimate unknown population parameters using maximum likelihood method and method of moments.

.	**4**	Inference II	CO2	Acquire knowledge about important inferential aspects; derive the most powerful critical region/test using Neyman Pearson Lemma.
			CO3	Describe and/or apply suitable large sample test based on normal distribution, small sample tests based on chi-square, Student's t andSnedecor's F distributions and draw inferences.
			CO4	Differentiate between parametric and non-parametric tests of significance; describe and/or apply suitable non-parametric test (runtest, sign test, Wilcoxon-signed Rank test, Wilcoxon-Mann Whitney test and Mediantest) and draw inferences.
	STA414	Statistical Inference II	CO1	At the end of this course, the students will be able to hypothesize the objectives of a research.
			CO2	problem and apply a suitable test of significance using MS Excel and R Programming Based on normal distribution, Chi-square, Student's t and Snedecor's F distributions and draw appropriate inference.
12.	**STA505**	Sampling Techniques and Business Economics	CO1	demonstrate the knowledge of basic concepts of sample surveys and business economics.
			CO2	explain the methods to measure trend, seasonal variations and forecast a business series.
			CO3	explain Pareto's law of income distribution, curves of concentration and the methods to determine the demand curves using timeseries data
			CO4	compare the sampling techniques - SRSWR, SRSWOR, stratified and systematic sampling methods.
	STA 515	Sampling Techniques and Business	CO1	On successful completion of this practical course, students will be able to carry out the following using MS Excel and R Programming able to fit trend and compute seasonal indices by various methods for a time series and forecast a time series using exponential

		Economics		smoothing.
			CO2	estimate and compare the efficiencies of SRSWR, SRSWOR, stratified and systematic sampling methods.
13.	**STA 506 A**	Statistical Quality Control and Reliability	CO1	explain the concepts and importance of quality control, 7QC tools, 6 Sigma.
			CO2	explain the concepts of reliability, system reliability and compute the same for various configurations.
			CO3	explain single and double sampling plans for attributes and evaluate their OC, ASN, ATI, AOQ and AOQL functions.
			CO4	construct control charts for variables and attributes and draw interpretations.
	STA 516 A	Statistical Quality Control and Reliability	CO1	At the end of this practical course the students will be able to do the following practicals using MS Excel and R Programming construct control charts for variables, attributes and draw interpretations.
			CO2	design a single sampling plan and construct its OC curve.
14.	**STA 607**	Design of Experiments , Vital Statistics, Index Numbers And Official Statistics	CO1	Explain Analysis of Variance (ANOVA) of one way and two way classified data, derive various sums of squares, expectations and apply Cochran's theorem to carry out he analysis.
			CO 2	Define the basic terms and principles of design of experiments, differentiate between the designs-CRD, RBD and LSD and analyse them using the technique of ANOVA by estimating the missing observation, if any and derive efficiencies
			CO 3	List the functions and organisations of CSO, NSSO, define National Income, explain the methods of computing National Income,different mortality, birth, reproductive, fertility rates and life tables.
			CO4	Summarize the purpose and problem in construction of index numbers, explain

				simple and weighted index numbers, cost of living index numbers, wholesale index numbers, base shifting, splicing and deflation.
	S T A 6 1 7	Design of Experiments, Vital Statistics, Index Numbers And Official Statistics	CO1	Apply suitable sampling technique and obtain precise estimates for a given study- SRSWR, SRSWOR, Stratified Random Sampling & Systematic Sampling.
			CO2	Identify and perform suitable ANOVA for a given data / design and segregate the types of variation
15.	ST A 608 A	Operations Research	CO1	Acquire knowledge in concepts of mathematical concepts/techniques used in Operations Research
			CO2	Formulate a business problem into a Linear Programming Problem (LPP), solve LPP using graphical, simplex and artificial variable techniques.
			CO3	Explain the problems of Transportation and Assignment, formulate as LPPs, describe and apply different methods to obtain an initial basic feasible solution (IBFS) and hence optimum basic feasible solution (OBFS).
			CO4	Explain 2-machine n-jobs and 3-machine n-jobs Sequencing Problems, Johnson's algorithm and produce optimum sequence/s using Johnson's algorithm.
16.	**STA618**	Operations Research	CO1	Formulate and solve Linear Programming Problems (LPP) by Graphical, Simplex, Big M and Two-Phase methods
			CO2	Solve balanced and unbalanced Transportation and Assignment Problems, resolving degeneracy if any.
17.	II year SEC -2	Data Scaling Techniques and Report writing	CO1	explain scales of measurement, questionnaire and schedule, classification bases and scale construction techniques.
			CO2	design and carryout a project with statistical analysis and present the report in technical format.
18	SEC -2	Data Scaling Techniques	CO1	explain scales of measurement, questionnaire and schedule, classification bases and scale construction techniques.

.		and Report writing	CO2	design and carryout a project with statistical analysis and present the report in technical format.
19.	PHY 101	Mechanics	CO1	Understand the concepts of Vectors and Newton's Laws
			CO2	Understand the concepts of rigid bodie, Apply to rotational motion
			CO3	Analyze the frames of references, relativity, length contraction and time dilation
			CO4	Apply the wave motion to obtain the equations of motion under different conditions.Create Lissajous patterns
	PHY 111	Mechanics	CO1	Understand the characteristics of wave motion
			CO2	Apply to various types of bodies to deduce the time period and also other physical properties
20.	PHY 202	Waves and Oscillations	CO1	Understand the concepts of thermodynamics and kinetic theory of gasses
			CO2	Remember the thermodynamic potentials and solve Maxwell equations.
			CO3	Apply the thermodynamic laws to Low temperature Physics and Cryogenics
			CO4	Understand the Quantum theory and Statistical Mechanics
	PHY 212	Waves and Oscillations	CO1	Apply the wave properties of light and determine the refractive Index of a liquid, wavelength of a Lase
			CO2	Evaluate the thermal conductivity of a bad conductor, efficiency of electric Kettle
21.	PHY 303	Thermal Physics	CO1	Understand and Remember the concept of Electric Field, Magnetic Field, Maxwell's equations, growth and decay of current in various circuits.
			CO2	Explain nature of electric field, magneticfield, Ampere's law, Lenz's Law, Maxwell's equations
			CO3	Implement the concepts of electric, magnetic field for various cases.
			CO4	Examine and experiment the behavior of different circuits
	PHY 313	Electromagnetic Theory	CO1	Experiment different Network theorems
			CO2	Determine time constant etc for LCR Series/Parallel circuits, LR, RC, Circuits

22.	**PHY 404**	Waves and Optics	CO1	Understand concepts of longitudinal and transverse waves, Interference, Diffraction and Polarisation
			CO2	Explain the formation of waves, interference pattern , diffraction pattern and Polarisation effects under different conditions
			CO3	implement the understanding of various waves and optical concepts for different cases
			CO4	Examine and experiment different interference and diffraction patterns, polarization effects and transverse and longitudinal effects.
	PHY 414	Waves and Optics	CO1	Experiment the formation of interference and diffraction patterns
			CO2	Determine the wavelength of the given source of light with the help of interference and diffraction patterns formed
23.	**PHY 505**	Modern Physics	CO1	Understand and Remember Atomic spectra,Molecular spectra, Matter waves, Schrodinger equations, Nuclear and crystal structure
			CO2	Explain different experiments, and experimental effects
			CO3	Implement the experimental understanding to practical applications like, Schrodinger equation etc
			CO4	CO4 Examine and Experiment the understanding of various theoretical concepts
	PHY 515	Modern Physics lab	CO1	Experiment Photoelectric effect, GM Counter
			CO2	Determine planck's constant
24.	**PHY 606**	Basic Electronics	CO1	Understand the concept of AC,D C, kirchoff laws, Resonance, Network theorems and solve the simple networks using kirchoff laws.
			CO2	Design the transistor Hybrid model circuit and calculate the h parameters
			CO3	Study the V-I characteristics of different semiconductor devices and calculate their parameters
			CO4	Construct basic gates using Universal gates
	PHY 616	**Basic**	CO1	Characteristics of different semiconductor devices and calculate their parameters.

		Electronics	C O2	Construct basic gates using Universal gates
25.	**ELE 101**	**Circuit Analysis**	CO 1	Understand the concept of AC,D C, kirchoff's laws, Resonance, Network theorems, working of CRO, Design and study working of Filters, integrator , differentiator and resonance circuits
			CO 2	Design and simulate filter, differentiator and Integrator circuits.
			CO 3	Solve the networks using kirchoff's laws, network theorems, node analysis and mesh analysis
			CO4	Examine the different AC waveforms using CRO and calculate the time period and frequency of a wave
	ELE111	Circuit Analysis	CO1	Solve the network theorems using complicated networks and prove the kirchoff laws
			CO2	Design and simulate the filters,integrator ,differentiator circuits and calculate the resonant frequency of resonant circuits.
26.	ELE 202	Electronic Devices	CO 1	Understand the concept of semiconductors,working of different semiconductor devices
			CO 2	Design the transistor Hybrid model circuit and calculate the h parameters
			CO 3	Study the V-I characteristics of different semiconductor devices and calculate their parameters
			CO4	Apply different semiconductor devices in daily life.
	ELE 212	Electronic Devices	CO1	Understand the V-I characteristics of different semiconductor devices and calculate their parameters.
			CO2	Design and Simulate the voltage regulator circuit.
27.	ELE 303	Analog Circuits	CO 1	Understand the working of different types of rectifiers, regulated power supply and filter circuits,Design and study the working of amplifier circuits
			CO 2	Design a regulated power supply Amplifier and oscillator circuits. Simulation of circuits
			CO 3	Implement simple projects
			CO4	Create energy saving devices
	ELE 313	Analog Circuits	CO1	Create a regulated power supply
			CO2	Design and analyze the oscillators.
28.	ELE 404	Linear Integrated circuits and Basics of Communication	CO 1	At the end of the course the student will be able to Analyze the block diagram of op amp,IC Timer circuits and applications.
			CO 2	Develop op-amp-based projects

			CO 3	Solve numerical problems to compare the different limits of modulation
			CO4	Compare the analog and digital modulation techniques
	ELE 414	Linear Integrated circuits and Basics of Communication	CO1	Develop projects using timers.
			CO2	Conceptualize the modulation technologies
29.	ELE 505	Digital Electronics & Communications	CO 1	Understand daily life applications of Basic Logic gates
			CO 2	Analyze the steps to simplify the circuit construction and minimalistic hardware.
			CO 3	Evaluate flip flops and develop working projects
			CO4	Create display counters
	ELE 515	Digital Electronics & Communications	CO1	Create basic gates using Universal gates, Apply minimalistic hardware.
			CO2	Evaluate Sequential Circuits and Create display counters.
30.	ELE 606	Embedded Systems and Microcontrollers	CO 1	Understand the fundamentals of microcontrollers
			CO 2	Analyze the steps involved in an Embedded Product Development Lifecycle
			CO 3	Develop Programming skills in Embedded Systems for various sensor based applications
			CO4	Create modules for real time projects
	ELE 616	Embedded systems and Microcontrollers	CO1	Create program for the hardware implementation as per real time requirements
			CO2	Evaluate the functionality of the hardware as per the developed program
31.	CSC 101	Programming in C	CO 1	Acquire knowledge about the fundamentals of Computer, Program fundamentals,Algorithms and understand the basics of C.
			CO 2	Understand and apply the concept of Control Statements, Arrays and program Structures
			CO 3	Define the syntax and semantics of Functions & Pointers.
			CO4	Compare and analyze the approaches of Structures, Union, Enumeration data types and devise to Files handling in C
	CSC 111	Programming in C	CO1	Develop C programs using the fundamental programming concepts.
			CO2	Design programming solutions to simple technical problems using C language
32.	CSC 202	Programming in C++	CO 1	Understand the basics of C++
			CO 2	Ability to develop programs with Object Oriented Programming concepts
			CO 3	Develop in-depth knowledge about inheritance & C++ Streams
			CO4	Define and apply the concepts of Exception & Templates in complex C++ programs

	CSC 212	Programming in C++	CO1	Develop programs that demonstrate Object Oriented Concepts of C++
			CO2	Implement solutions for various problems using Classes and Objects
33.	CSC 303	Implementing Data Structures using C++	CO 1	Develop Proficiency to apply core knowledge in implementing Data Structures using C++ programming language
			CO 2	Define & Analyze Object Oriented Programming aims to implement real world entities like Stacks & Queues in programming.
			CO 3	Acquire hands-on coding; computing abilities for the concepts of Data structures like Arrays, Linked list, Trees,Graphs to update to the demands from Industry.
			CO4	Acquire skills on the creation of Binary Trees, Heaps and problem solving mind with Searching & Sorting techniques.
	CSC 313	Implementing Data Structures using C++	CO1	Facilitate working with Data Structures concepts involving Stacks, Queues, and Linked Lists etc.
			CO2	Ability to solve problems related to Trees, Graphs, Minimum Spanning trees and its applications.
34.	CSC 404	Database Management System-DBMS	CO 1	Define Database concepts & roles in Database Environment to develop Knowledge.
			CO 2	Acquire employable skills through SQL commands, and PL/SQL programs to update to the demands of the Industry
			CO 3	Develop a strong foundation on the construction of E- R E- R & E-E-R diagrams for different types of relationships and contemporary knowledge on Normalization forms
			CO4	Inculcate ability to understand Transaction Management & Security issues.
	CSC 414	SQL & PL/SQL	CO1	Understand and appreciate different commands towards Structured Query language
			CO2	Attain knowledge of basic programs on PL/SQL concepts such as Cursors, Exceptions, Procedures, Packages, and Functions
35.	CSC505	Programming in Java	CO 1	Define the concepts of OOPs and fundamentals of the Java programming language.
			CO 2	Demonstrate various programming constructs like control structures, constructors, inheritance,polymorphism, interfaces and packages.
			CO 3	Develop efficient and error-free programs by applying the concepts of Multithreading and Exception handling
			CO4	Acquire employability skills through hands-on coding and developing interactive programs using applets, swing and JDBC.
	CSC 515	Programming in Java	CO1	Apply the concepts of java to develop efficient and error-free codes

			CO2	Develop programs for solving real-world problems using swings.
36.	CSC 608	Web Technologies	CO 1	Gain knowledge and proficiency in HTML/XHTML and be able to develop a structure for web pages.
			CO 2	Gain proficiency in the usage of style sheets in fine-tuning structure anddesign
			CO 3	Acquire knowledge and skills relating to JavaScript and apply this to create interactive web pages.
			CO4	Acquire knowledge relating to structuring data using XML, Extensible Style Sheets, DOM and Ajax-Enabled Rich Internet Applications
	CSC 618	Web Technologies	CO1	Create web pages using XHTML and Cascading Style Sheets.
			CO2	Build dynamic web pages using JavaScript (Client-side programming).
37.	DSC101	Fundamentals of Information Technology	CO 1	Explain the notion of problem-solving using computer programming
			CO 2	Remember and identify the components of a computer and their functions
			CO 3	Familiar with the concepts of networking, LAN, Internet and working of www
			CO4	Acquire the knowledge of Software Project and the Process of software development
	DSC111	Fundamentals of Information Technology	CO 1	Understand the components of a Motherboard and allied parts of a System
			CO 2	Perform various tasks related to installing /uninstalling devices and programs
38.	DSC202	Problem Solving and Python Programming	CO 1	Recognize how to read and write data from/to files in python programs
			CO 2	Acquire knowledge on various python concepts of data types, control statements, list, tuples, functions, strings and OOPS
			CO 3	Develop algorithmic solutions to simple computational problems
			CO4	Develop simple Python programs for solving problems.
	DSC212	Problem Solving and Python Programming	CO1	Write Python programs using fundamental python concepts
			CO2	Develop Programming solutions with appropriate data structures and logic
	DSC303	Data Engineering with Python	CO 1	Acquire different types of files and work with text data
			CO 2	Implement regular expression operations in real time examples
			CO 3	Learn some of the relational databases concepts via SQL
			CO4	Attain knowledge on tabular numeric data, data structures, data series & frames, and PyPlot for visualization
	DSC313	DataEngineering with Python	CO1	Write programs that can read and write to files and use various packages for visualization purposes
			CO2	Create simple databases and perform different queries on them.
	DSC404	Machine Learning	CO 1	Acquire basics of Machine Learning and its limitations
			CO 2	Implement the Machine Learning Algorithms-supervised, unsupervised,

				reinforcement into the real time problems
			CO 3	Learn the Probabilistic Modelling and Association Rule Mining
			CO4	Attain knowledge on linear modeling
	DSC414	Machine Learning	CO1	Implement Machine Learning Algorithms on datasets
			CO2	Design appropriate Machine learning solutions for real world problems
	DSC505	Natural Language Processing	CO 1	Acquire key concepts of NLP and linguistics to describe and analyze language
			CO 2	Understand the data structures and algorithmsthat are used in NLP
			CO 3	Classify texts using machine learning and deep learning
			CO4	Build models to carry out Natural Language Processing techniques on various corpora
	DSC515	Natural Language Processing	CO1	Write programs that manipulate and analyze language data using Python
			CO2	Perform high level tasks like sentiment analysis using NLP techniques
	DSC506	Data Structures and Algorithms	CO 1	Acquire strong foundation from fundamental concepts to analyze and design algorithms with various complexities
			CO 2	Inculcate a spirit of learning ability to understand and implement linear, non-linear data structures
			CO 3	Build capacities for professional development imbibing knowledge on various kinds of searching and sorting techniques
			CO4	Acquire employable skills through problem solving to update to the demands from Industry
	DSC607 B	Deep Learning	CO1	Understand the basics of deep learning
			CO2	Gain familiarity with the usage of tensors in deep learning
			CO3	Utilize Python deep-learning framework Keras, with Tensor-Flow as a backend engine
			CO4	Develop multi layered neural networks to perform classification and prediction tasks
	DSC617 B	Deep Learning	CO1	Develop deep learning models using Keras
			CO2	Implement Deep neural networks based on CNN’s and RNN’s
	DSC608 / PRJT608	Major Project (Data Science)	CO1	Demonstrate a sound technical knowledge of their selected project topic.
			CO2	Design relevant Machine Learning/ Deep Learning based solution for respective problem domain

			CO3	Acquire necessary datasets and Implement chosen models.
			CO4	Demonstrate the knowledge, skills and attitudes of a Data Science Professiona

VI. B.Com. Course Outcome

B.Com: Course Outcome				
1.	**BCO101**	Financial Accounting - I	CO1	**Remember** basic postulates to advanced concepts in preparation of the accounts of a sole proprietor.
			CO2	**Understand** and apply Accounting equation in compiling transactions for the completion of accounting cycle
			CO3	**Evaluate** and analyze the causes for errors and rectify them with appropriate accounting entries.
			CO4	**Create** final statements of proprietorship businesses to evaluate and report their performance to the stakeholders..
2.	**BCO102**	Business Organisation and Management	CO1	To **remembe**r forms of business organizations, their formation, functioning and significance.
			CO2	To **understand** management functions and application of scientific management principles.
			CO3	To demonstrate and **analyze** effective management skills of planning, organizing, directing & controlling in managing a business enterprise.
			CO4	To draft and construct various incorporation documents.

			CO5	Types, Methods of Constructing Index Numbers and Tests of Consistency of Index Number
3.	**BCO103**	Foreign Trade	CO1	To **remember** the practices, laws, legality, agreements and documentation involved in foreign trade.
			CO2	To **understand** and apply various methods by institutions to promote foreign trade and to meet the globalized market demand.
			CO3	To **appreciate** the need for accelerating exports and imports across the country.
			CO4	To **create** various documents and prototypes of the documents used in foreign trade and compilation of balance of payment.
4.	**BCO104**	Introduction to International Business	CO1	To **remember** nature, importance and process of international business and further to outline its issues and operations.
			CO2	To **understand** international business environment factors and its effect on international business operations.
			CO3	To **analyze** the functioning and importance of international economic, monetary institutions & agreements in promoting international business
			CO4	To construct an international business plan, and reports on environment analysis and economic groupings.
5.	**BCO 105**	Fundamentals of Information Technology	CO1	Recall and **remember** the physical components in the structure of computer system
			CO2	Will acquaint functional knowledge on storage capacity of a computer system

			CO3	**Create, analyze** and generate report, letters, presentations using fundamentals of information technology learnt
			CO4	**Demonstrate** digital literacy through the study of computer operating system, networking, internet, search engines, spreadsheets and data software
6.	**BCO**	Data Driven Decision Making	CO1	**Identify** the challenges of becoming a data driven enterprise.
			CO2	**Explain** basic concepts of relational database, Big data technologies, statistical tools, machine learning and data visualization tools
			CO3	**Analyze** data practices in organization and requirement gathering process
			CO4	**Summarize** the data life cycle management and create programs for basic data operations using SQL and Python.
			CO5	Accounting treatment for Dissolution of firm and Insolvency of partner.
7.	**BCO**	**I**ntroduction to Cost & Management Accounting	CO1	**Understand** and remember the various concepts of cost & financial accounting.
			CO2	**Learn** about the accounting principles and concepts of manufacturing costs, absorption and variable costing systems, distinguish between joint and by-products
			CO3	**Analyse** the importance of strategic planning & performance, and the increasing role of Information Technology in Finance
			CO4	**Apply** the emerging concepts of Cost & Financial Accounting in cost reduction, planning & management

8.	**BCO 201**	**Financial Accounting II**	CO1	To **remembe**r the need and importance for accounts payable/ receivable of trading & non-trading business.
			CO2	To **understand** and apply various accounting methods in recording transactions of profit and non- profit organizations
			CO3	**Analyze** and evaluate accounting formats and to reframe the financial statements.
			CO4	**Create** final accounts of profit and not for profit organizations and to report their performance
			CO5	Guidelines for making delegation effective, Principles of Co-ordination, controlling techniques.
9.	**BCO 202**	**Business Laws**	CO1	To **remember** the regulatory framework of business in India with regards to Indian contract act, Sale of goods act & Consumer protection act.
			CO2	To u**nderstand** concepts of intellectual property rights, their operations/implications and management of companies and conduct of meetings.
			CO3	To analyze the process of winding up of companies according to the law
			CO4	To **create** an agreement and contract, contract of sale, application for insolvency, consumer grievance appeal.
10.	**BCO 203**	**Banking and Financial Services**	CO1	To **Remember** the Structure, Composition and Regulatory framework of Indian Financial System
			CO	To **Understand** and appreciate the relationship between various participants in the Financial System

			2	
			CO3	To **Analyse** and Distinguish the investments and its decisions in future
			CO4	To **Create** and Compare various Deposits and Borrowings availed by Individuals, Business and Corporates
11.	**BCOI 203**	**Export Marketing**	CO1	To remember the nature, functioning and scope of international marketing and to recall the legal dimension of export markets.
			CO2	To **understand** the process of export product selection, promotion and packaging.
			CO3	To **analyze** techniques, needs importance of promotion and marketing in overseas markets
			CO4	To frame export contracts, marketing plans, supply chain programs etc.
			CO5	Structure of Distributed Database system , Emergence of Client Server Architecture.
12.	**BCOC 203**	**Programming with C & C++**	CO1	**Remember & Understand** computer languages , purpose of a program and basics of C language
			CO2	**Apply** Operators , Decision making & Looping statements in C program
			CO3	**Evaluate & Analyze** the need & Usage of Arrays, Strings & User defined functions and Implement Structures , Unions & Pointers in C Programs
			CO	**Understand & Apply** Object Oriented concepts in C++ programs for Business Applications

			4	
13.	**BCOB203**	**Data Analytics Essentials**	CO1	Identify types of data, scales of measurement and different variables in data analysis.
			CO2	Distinguish between discrete and continuous theoretical distributions.
			CO3	Illustrate the data through Venn diagrams, compute permutations, combinations and probabilities
			CO4	**Analyze** and interpret the data using descriptive statistical measures and apply case studies using R.
14.	**BCOT203**	**Banking for BPS**	CO1	To **understand** the function and the type of product and services offered by banks, lead generation in the banking sector.
			CO2	To **explain** and interpret the lead generation and card management operations.
			CO3	To **compare** and contrast the process of lending modes of trade financing options.
			CO4	To **create** the implications of each mode of trade financing option and its process in the context of BPS.
15.	**BCOP204**	**Financial Planning and performance**	CO1	**Identify and understand** strategic plans and the factors affecting them, various strategic planning models and analytical techniques, forecasting techniques, and the key performance indicators (KPI)
			CO2	**Develop** an awareness and understanding of the various budgeting concepts and methodologies so as to successfully prepare budgetary statement..

			CO3	**Analyze** performance against operational goals using measures based on revenue, manufacturing costs, nonmanufacturing costs, and profit depending on the type of center or unit being measured
			CO4	**Analyze** the different responsibility centers and allocate costs among various organizational segments, and performance measures while performing various profitability analyses.
			CO5	Emerging Trends in Commercial Banking in India. Basel norms and its global impact with special emphasis on its implementations in India
16.	**AECC 2**	**Basic Computer Skills**	CO1	**Recall and remember** the physical components in the structure of computer system
			CO2	Will **acquaint** functional knowledge on storage capacity of a computer system
			CO3	**Create,** analyze and generate report, letters, presentations using fundamentals of information technology learnt
			CO4	**Demonstrate** digital literacy through the study of computer operating system, networking, internet, search engines, spreadsheets and data software
7.	**BCO 301**	**Advanced Accounting**	CO1	Enable the students to outline the basic accounting concepts and formats of a firm and Joint stock companies.
			CO2	**Understand** and apply the accounting procedures for reconstitution of a firm and for acquisition of Equity and Debt Capital.
			CO3	**Evaluate and analyse** the accounting treatment for conversion of Debt to Capital and Firm to a Company.
			CO	Prepare various investment portfolios for Companies in emerging Markets.

			4	
18.	**III BCO302**	**Business Statistics – I**	CO1	To **remember** the basic concepts of Primary and secondary data to be used in conducting Research
			CO2	To **Understand** how to create graphs and charts and various methods to be applied for computation of Measures of Central Tendency
			CO3	To Judge the reliability of measures of Dispersion and make comparative study of variability of two series.
			CO4	To **Create** statistical inferences of data available and write general reports
19.	**BCO303**	**Financial Institutions and Markets**	CO1	**Remember** and acquaint yourself with the Indian financial system and economic development. Stress on the weaknesses of the Indian financial system.
			CO2	Make students understand the role of commercial banks, its functions, venture capital, non-banking companies, and development through start-ups.
			CO3	**Evaluate** assess and analyze money market, role of RBI, Liquidity, monetary policy, Repo and Reverse Repo
			CO4	**Analyze** players in the debt market, securities, bonds, features and ratings of bonds. Understand equity market, rights issue, SEBI, its role and functions, recent developments in stock markets.
20.	**BCO/SEC/302**	**Principles of Insurance –I**	CO1	To outline the basic concepts of insurance contract & to recall the constituents of insurance markets
			CO2	To **understand** the various principles & types of insurance and its customers.

			CO3	To **analyze** various procedures of applying for life insurance products
			CO4	To **prepare** life insurance products with minimal coverage and premium rates
21.	**BCOI303**	**International Business procedures & Documentation**	CO1	To r**emember** and the concepts FEMA regulations, INCOterms, payment terms, ECGC, EIA types of inspection
			CO2	To **understand** the pre-shipment and post shipment credit schemes, various modes of financing
			CO3	To **evaluate** and analyse the international finance markets
			CO4	To **create** documents required for export and import cargo
22.	**BCOC303**	**Relational Database Management System**	CO1	To **Remember** the fundamental elements of Database Environment.
			CO2	To **Understand** and apply Entity Relationship model and Normalization techniques for data redundancy
			CO3	**To Evaluate and analyse** the transaction processing system to determine the atomicity, consistency, isolation and durability
			CO4	To **Create** SQL queries for data storage and retrieval for database using MYSQL & Oracle 10G

23.	**BCOP303**	**International Financial Reporting**	C O1	**Understand** the concepts of the four basic financial statements and apply the learning to Integrated reporting (IR), Integrated Thinking, and Integrated Report.
			C O2	**Understand** the 5-Steps approach to revenue recognition, per USGAAP, the valuation and accounting for Cash & Cash Equivalents, Accounts Receivable, Notes Receivable, Transfers & Servicing of Financial Assets, Accounts Payable, Employee-related Expenses Payable, Cost of Goods Sold and Inventory.
			C O3	Comprehend the different depreciation methods, amortization and impairment of intangible assets, and distinguish between finance and operating leases.
			C O4	Present these financial items on the financial statements keeping in mind the factors affecting them.
24.	**BCOP304**	**Financial Analytics and Control**	C O1	**Understand** accounting information systems, the fundamentals of data analytics and significant tools of data visualization, and supply chain management and the elements associated with it.
			C O2	Develop an **understanding** of the various cost measurement concepts and evaluate the different types of costing systems.
			C O3	Comprehend the concepts of Internal controls, Internal control risk, COSO Control Components, ERM Policies and Procedures, Corporate governance and Audit Risk
			C O4	Students will also learn to identify and evaluate the performance of multiple business processes.
25.	**BCOB303**	**Data Analytics Modelling**	C O1	explain the concepts of business value, data profiling, data cleansing, outlier, ETL process, data warehousing and role of data modeling in organization
			C O2	**analyze** different project processes, distinguish between ETL tools, data warehouse and data lakes, differentiate between utility of relational DW, cubes
			C O3	compare the data modeling techniques, analyze the core tools used in structured and unstructured data, explain CRUD operations and core tools for RDBMS.
			C O4	perform CRUD (Create, Read, Update, and Delete) tasks using SQL and use tools for unstructured data management

26.	**BCOT303**	**Retail and Market Research**	CO1	To **remember** the concepts, functions and issues related to Retail Research, Consumer Research and Media Research.
			CO2	To **understand and apply** metrics in quality monitoring and management in Retail Marketing
			CO3	To develop Research inquisitiveness towards Retail marketing
			CO4	To **analyze** various dimensions of Retail Market Research as career opportunity.
27.	**BCO/SECM302**	**Insurance for BPS -1**	CO1	To **Understand** the process of making valid contract under general insurance and life assurance and its applicability governing principles of insurance
			CO2	To Differentiate the implications of a of life insurance policy with the rest General Insurance
			CO3	To Differentiate the implications of a of nonlife insurance policy with the rest.
			CO4	To make small conclusions on Insurance policies
28.	**IV BCO401**	Income Tax	CO1	**Remember** and describe the conceptual framework of Tax structure in India.
			CO	**Understand** and illustrate various tax provisions, deductions, exemptions, rebates of sources of income

			2	
			CO3	**Analyse** various formats for computation of taxable income under five heads
			CO4	**Create** Income Statements and summarize assessment of taxable income of Individuals.
29.	**BCO402**	**B**usiness Statistics - II	CO1	To use Regression analysis to estimate the relationship between two variables and how to use frequency distribution to make decisions
			CO2	To understand the techniques and concept of different types of Index numbers and Time series analysis
			CO3	To introduce students to the concept of Probability
			CO4	To acquaint students how to apply Addition, Multiplication and Bayes theorem for different situations
30.	**BCO403**	Corporate Accounting	CO1	To remember different Accounting formats of Banking and Insurance companies.
			CO2	to understand and apply Procedures to be followed in case of Amalgamation and Liquidation of Companies.
			CO3	To analyse the dissimilarities between Acquisition , Amalgamation & Liquidation of Companies.

			CO4	To prepare Financial statements of Banking Companies as per Banking Regulations Act.
31.	**BCO/SEC/404**	Practice of Life and General Insurance	CO1	To understand the practice of life insurance and other operations carried out by life insurance companies.
			CO2	To familiarize themselves with various life insurance products and rebates offered by insurance companies
			CO3	To Calculate the amount of premium based on different factors and be able to price life products.
			CO4	To compare various kinds of life insurance plans based on cost-benefit.
32.	BCOC403	E- Commerce	CO1	Understand the need & requirement of E-Commerce
			CO2	Apply the framework of E-Commerce for functioning of E-Business
			CO3	Analyze the financial & mercantile framework of E-Commerce and legal security & privacy methods of financial matters
			CO4	Evaluate the digital marketing techniques in E-Busineess
33.	**BCOP 404**	**S**trategic Financial	CO1	Develop an in-depth understanding of financial statement analysis and knowledge of corporate finance, corporate restructuring, like mergers and acquisitions, bankruptcy and international finance.

		Management	CO2	Learn about long-term financial management using calculations of risk and return, term structure of interest rates, types of financial instruments, cost of capital and valuation of financial instruments.
			CO3	Identify and evaluate different methods of raising capital by gaining an understanding of financial markets and regulation and market efficiency.
			CO4	Complete financial statement analysis through financial ratio calculations, profitability analyses, and working capital management.
34.	**BCOB 403**	**Fo**recasting & Predictive Analytics	CO1	explain the basic concepts of modeling, predicting, forecasting, classification, clustering, optimization and simulation.
			CO2	predict/forecast the future values of a business problem using different forecasting and classification techniques.
			CO3	apply clustering algorithms and optimization techniques to solve a business problem.
			CO4	design a model and assess the likelihood of predictions using Monte Carlo Simulation Analysis.
35.	**BCOT403**	Capital Markets for BPS	CCCO2	To remembeTo understand Capital market instruments and choose a set of Capital market instruments on the basis of merit of a case.r the concepts, functions and types of Capital markets.

			CO3	To design and develop hedging strategy for managing risk of stocks of capital

				market by using derivatives
			CO4	To illustrate the stages of Trade cycle and process involved in mutual funds and Investment Banking.
36.	**BCO/SECM404**	Insurance for BPS – II	CO1	To remember the role of health care insurance in promoting the interest of the individual and health care industry.
			CO2	Understand the defined benefits and contributions of retirement planning of an individual investor in USA and third party
			CO3	To Evaluate and analyse the implications and applicability of digital technologies in sphere of BPS in Insurance
			CO4	To compare various kinds of life insurance plans based on cost-benefit
37.	**V BCO501 (A)**		CO1	Remember the basic concepts and essentials of Cost Accounting

			CO2	Apply techniques of inventory control, methods of wage payments, and allocation of overheads in costing
			CO3	Analyze and prepare the Cost Sheet of the company while using Unit Costing & Job Costing methods
			CO4	Create and assess Contract Accounts and Process Accounts in case of Construction Businesses
38.	**BCC501B**	FINANCIAL PLANNING & PERFORMANCE	CO1	Understand Strategic Planning and its impact
			CO2	Remember & apply various financial forecasting techniques and budgeting methodologies in the business
			CO3	Analyze performance using various measures of Cost & Variance
			CO4	Outline and apply technology systems in accounting, resource planning, and governance within the enterprise
39.	**BCO501 (C)**	**INTERNATIONAL FINANCIAL REPORTING – I**	CO1	Remember & understand financial reporting norms as per GAAP & IFRS
			CO2	Account for items of Current Assets & Current Liabilities under the GAAP & IFRS

			CO3	Analyze the measurement, recognition, presentation, and disclosure of items in both reporting standards

			CO4	– Retain & judge transactions/events based on norms to identify the most appropriate method of presentation & disclosure
40.	**BCO502 (A)**	COMPUTERIZED ACCOUNTING	CO1	Understand and remember procedures & processes of maintaining ledgers and groups under/in Tally ERP
			CO2	Remember the procedure of creating & maintaining inventory accounts and stock books under ERP
			CO3	Apply accounting knowledge when entering/recording day book transactions and maintaining receivables and payables of the business
			CO4	Design MIS Reports with Tally ERP in a true and fair manner of presentation
41.	**BCO502 (B)**	**FI**NANCIAL DECISION MAKING – I	CO1	Understand the concept and need for corporate restructuring and financial management
			CO2	Comprehend various methods of raising capital and managing it for working capital needs
			CO3	Apply and analyze financial statements using methods of ratio analysis, profitability analysis, and expense analysis

			CO4	Judge financial statements and analysis results to take better financial decisions
42.	**BCO502(C)**	**IN**TERNATIONAL TAX & REGULATION	CO1	Understand and remember concepts of taxation for individuals & groups, statutory regulations & other accountant responsibilities regarding taxation
			CO2	Distinguish and differentiate taxation laws and methods of individuals, entities, and other corporates
			CO3	Analyze and evaluate property transactions to calculate the tax liability of individuals or groups
			CO4	Adhere to and be updated on the statutory regulations, the accountant's responsibilities, and business structures affecting taxation
43.	**BCOA503(A)**	AUDITING	CO1	Define and identify the basic concepts of auditing and procedures laid down by the AASB
			CO2	Interpret the qualities & duties of an auditor in the execution of an audit
			CO3	Apply the concepts of internal control, internal check, and internal audit within a company
			CO4	Carry out the activities of vouching for the transactions, verification, and valuation of assets of a company

44.	BCOA503(B)	**A**DVANCE CORPORATE ACCOUNTING	CO1	Understand the concepts of holding companies, lease accounts, and accounting with price level changes
			CO2	Remember & comprehend accounting for HR & Social Responsibility while also incorporating price level changes in accounting
			CO3	Apply various methods and treatments in Lease Accounting and accounting for Holding companies
			CO4	Summarize the need & significance of HR & Responsibility Accounting concerning its indicators of Social Performance
45.	**BCOA 503(C)**	**F**INANCIAL MANAGEMENT	CO1	Understand & identify the basic concepts of financial management & financial planning
			CO2	Identifying and assessing the various sources of finance and capital available to a business
			CO3	Analyze the current capitalization status of the firm with its Cost of Capital and give suggestions for remedial action
			CO4	Evaluating various factors and theories of capital structure to achieve an optimal mix
46.	**BCOB503(B)**	**INVESTMENT MANAGEMENT**	CO1	Understand the basic concepts of investment, risk & return related to that investment

			CO2	Compute stock & market indices using various methods of valuation
			CO3	Assess & analyze the rationale of diversification in a portfolio to achieve the most optimum one
			CO4	Conclude and summarize the use of various techniques with time value to form an efficient portfolio combination
47.	**BCOI503(A)**	**LOGISTICS MANAGEMENT**	CO1	Understand the concept and scope of the Logistics Management System
			CO2	Sketch out the various modes of logistics in connection to their documentary procedures
			CO3	Judge the national and international setup of insurance in logistics on a timely basis
			CO4	Interpret and adhere to the procedures & clearance for warehousing & storage of goods
48.	**BCOP504(A)**	**MARKETING MANAGEMENT**	CO1	Understand the 4P of marketing &its management in a company
			CO2	Apply the mix decisions for the product & pricing techniques in the most optimum manner

			CO3	Assess promotion techniques & channel management areas best suited to the business
			CO4	Formulate/Design efficient marketing strategies & plans to grow the business & product
49.	**BCOP504(B)**	**PROJECT & RELATIONSHIP MANAGEMENT**	CO1	Understand & identify the core areas and approaches to strategic management
			CO2	Assess and comprehend the global environment using various techniques of evaluation, along with the human aspects of the organization
			CO3	Analyze and manage business relationships effectively
			CO4	Evaluate and accept change within the dynamic business environment and through other projects
50.	**BCOP504(C)**	**INVESTMENT INSTRUMENTS**	CO1	Understand the basics of financial instruments available for investment, including debt, equity, and derivatives
			CO2	Identify and assess the various types/kinds of securities available for investment and choose the most optimal one
			CO3	Analyze and evaluate the use and approach towards derivative market & trading
			CO	Recognize other alternative investment securities within the securities market

			4	
51.	**VI BCO601(A)**	COST CONTROL & MANAGEMENT ACCOUNTING	CO1	Identify & understand the basics of management accounting and marginal costing techniques
			CO2	Prepare & present various budgets and their variance analysis accordingly
			CO3	Apply the techniques of financial statement analysis & analyze its results
			CO4	Construct & investigate the fund flow & cash flow statements of the company
52.	**BCO601(B)**	**FINANCIAL CONTROL**	CO1	Understand the reporting rules & procedures as per US GAAP & IFRS of a company's financial statements
			CO2	Remember the recognition, measurement, valuation & disclosure of the elements of financial statements as per GAAP & IFRS
			CO3	Apply the techniques and concepts of Cost Management in the business, including Standard Costing, ABC, Joint & By-product Costing
			CO4	Analyze the governance & compliance of internal controls & security measures within a company
53.	**BCO601(C)**	**INTERNATIONAL FINANCIAL REPORTING – II**	CO1	Remember the concepts of pensions & post-employment benefits as per GAAP & IFRS

			CO2	Understand Income tax laws & procedures under IFRS & GAAP
			CO3	Account for equity, business combinations & consolidations of an MNC/parent company
			CO4	Evaluate & construct accounting reports for the Not-For-Profit entities using Governmental Accounting
54.	**BCO602(A)**	THEORY & PRACTICE OF GST	CO1	Remember and recall the basic concepts of GST & taxes under GST
			CO2	Understand the hierarchy and classification of transactions & tax rates under the GST
			CO3	Record simple and advanced entries of the input tax credit, GST adjustment & return filing
			CO4	Produce and generate advanced GST entries in service sector entities, and transfer the same into ERP
55.	**BCO602(B)**	**FINANCIAL DECISION MAKING – II**	CO1	Recall the concepts of decision analysis including Break-even analysis, CVP analysis, and marginal analysis
			CO2	Understand the decision techniques & management strategies regarding pricing & risk respectively

			CO3	Evaluate and analyze various capital budgeting techniques & their investment decisions
			CO4	Adhere to professional business ethics, moral philosophies & values of the company/profession
56.	**BCO602(C)**	**INTERNATIONAL AUDITING**	CO1	Understand & adhere to ethical behavior, professional responsibilities & auditing principles
			CO2	Assess and classify various types of audit risk & develop plans to mitigate the same
			CO3	Carry out procedures and processes to gather audit evidence and report the same in a true & fair manner
			CO4	Prepare reports for compilation engagements, reviews & reporting of financial statements
57.	**BCOA603(A)**	**ACCOUNTING STANDARDS**	CO1	Understand and recall the concepts of accounting theory & its classification, and accounting standards
			CO2	Apply and record entries relating to financial reporting and disclosure as per IndAS Standards
			CO3	Calculate transactions and events which guidethe preparation of financial statements as per IndAS

			CO4	Assess items related to business acquisitions & consolidations, and report the same in a true & fair manner
58.	**BCOA603(B)**	**CORPORATE GOVERNANCE**	CO1	Understand and identify the significance & structure of Corporate Governance
			CO2	Study the committees & models governing Corporate Governance and Social Responsibility practices (CSR)
			CO3	Account for the role and responsibility of Corporate Governance among various parties within the firm
			CO4	Evaluate the issues surrounding Corporate Governance & its implementation
59.	**BCOA603(C)**	**INVESTMENT MANAGEMENT**	CO1	Recall the concepts of risk and return in investments by studying the significant factors which affect them
			CO2	Understand the relationship between risk and return on the investment & analyze the result/decision
			CO3	Identify the concept and compute the stock market indices using various techniques
			CO4	Analyze the concept of diversification in a portfolio, its effect, and measure the impact while incorporating the concept of Time Value of Money

60.	**BCOI603(A)**	**CROSS-CULTURAL CONSUMER & INDUSTRIAL BUYER BEHAVIOUR**	CO1	Understand the significance and impact of consumer behavior by studying internal differences between cultures and markets
			CO2	Assess the external differences & determinants of consumer buying behavior
			CO3	Evaluate international marketing implications, by also incorporating cross-cultural consumers & behaviors
			CO4	Analyze the incorporation of innovation and diffusion in consumer satisfaction & behavior
61.	**BCOI603(B)**	CORPORATE GOVERNANCE	CO1	Understand and identify the significance & structure of Corporate Governance
			CO2	Study the committees & models governing Corporate Governance and Social Responsibility practices (CSR)
			CO3	Account for the role and responsibility of Corporate Governance among various parties within the firm
			CO4	Evaluate the issues surrounding Corporate Governance & its implementation
62.	**BCOI603(C)**	**INVESTMENT MANAGEMENT**	CO1	Recall the concepts of risk and return in investments by studying the significant factors which affect them

			CO2	Understand the relationship between risk and return on the investment & analyze the result/decision
			CO3	Identify the concept and compute the stock market indices using various techniques
			CO4	Analyze the concept of diversification in a portfolio, its effect, and measure the impact while incorporating the concept of Time Value of Money
63.	**BCOP603(A)**	**INDIAN ACCOUNTING STANDARDS**	CO1	Understand and recall the concepts of accounting theory & its classification, and accounting standards
			CO2	Apply and record entries relating to financial reporting and disclosure as per IndAS Standards
			CO3	Calculate transactions and events which guide the preparation of financial statements as per IndAS
			CO4	Assess items related to business acquisitions & consolidations, and report the same in a true & fair manner
64.	**BCOP603(B)**	**CORPORATE GOVERNANCE**	CO1	Understand and identify the significance & structure of Corporate Governance
			CO2	Study the committees & models governing Corporate Governance and Social Responsibility practices (CSR)

			CO3	Account for the role and responsibility of Corporate Governance among various parties within the firm
			CO4	Evaluate the issues surrounding Corporate Governance & its implementation
65.	**BCOP603(C)**	**INVESTMENT INDUSTRY – II**	CO1	Understand and identify the structure of investment industries
			CO2	Classify and compare investment securities and assets to make an optimum investment decision
			CO3	Assess the functioning of financial markets following the needs of investors
			CO4	Construct plans & strategies to carry out investments and manage them specifically according to their risk and return
66.	**BCOP605(A)**	**INTERNATIONAL FINANCE**	CO1	Remember and recall the significance, relationship, and scope of international finance
			CO2	Understand the intricacy and structure of the International Monetary System and Foreign Exchange Market
			CO3	Analyze the foreign exchange mechanism with nominal, real, and effective exchange rates to assess the Spot and Forward market securities

			CO4	Interpret the use & flow of funds in the international market using the Balance of Payment statement of the country
67.	**BCOP605(B)**	BUSINESS APPLICATIONS OF EMERGING TECHNOLOGIES	CO1	Recall and understand the transformation of finance in business with emerging technologies
			CO2	Assess the scope & use of Robotic Process Automation (RPA) and AI in business & finance
			CO3	Assess the scope & use of Robotic Process Automation (RPA) and AI in business & finance
			CO4	Analyze and interpret the use, control & responsibility of Blockchain technology
68.	**BCOP605(B)**	**BUSINESS APPLICATIONS OF EMERGING TECHNOLOGIES**	CO1	Recall and understand the transformation of finance in business with emerging technologies
			CO2	Assess the scope & use of Robotic Process Automation (RPA) and AI in business & finance
			CO3	Assess the scope & use of Robotic Process Automation (RPA) and AI in business & finance
			CO4	Analyze and interpret the use, control & responsibility of Blockchain technology

69.	**BCOP605(C)**	**INVESTMENT INDUSTRY CONTROLS**	CO1	Recall and retain the significance & functions of Risk Management in the industry
			CO2	Classify the types of risks & assess the methods to manage them
			CO3	Carry out various performance evaluation techniques & methods regarding investment, and analyze the results
			CO4	Record and present the internal & external documentation of investments in a true and fair manner
70	**BCOB603(A)**	**BUSINESS APPLICATIONS OF EMERGING TECHNOLOGIES**	CO1	Recall and understand the transformation of finance in business with emerging technologies
			CO2	Assess the scope & use of Robotic Process Automation (RPA) and AI in business & finance
			CO3	Attribute to the use of cybersecurity and its digital transformation in the business entity
			CO4	Analyze and interpret the use, control & responsibility of Blockchain technology

VII. BBM Course Outcomes

BBM : Course Outcomes

1.	**I BBA 101**	Principles of Management	CO 1	**Understand and apply** management principles in an organization
			CO 2	Compare and Analyzing effect of management principles in organization performance
			CO 3	**Evaluate and construct** management principles in ethical business
			CO 4	**Relate** management principles to organization
2.	**BBA 102**	Basics of Marketing	CO 1	**Recognize** the types of markets and effective environmental causes.
			CO 2	**Understand** the importance of the external environment At the end of the course students would be able to-in marketing decision making
			CO 3	**Analyze** the consumer adoption process and stages of product development
			CO 4	**Prepare** marketing plan for a product
3.	**BBA 103**	Business Economics	CO 1	**Recall** the micro and Macro factors of economics affecting the business.
			CO	**Understand and apply** the tools of economics in business decisions

			2	
			CO3	**Demonstrate** theories of production and cost and their utilities in solving business problems effectively.
			CO4	**Evaluate** the nature of Competition prevalent in Business by elucidating the various market structures
4.	**II BBA 201**	Organizational Behaviour	CO1	**Understand** Fundamental concepts of organization behavior in achieving the organizational goals effectively
			CO2	**Demonstrate** various theories and concepts of Motivation, Leadership and group Dynamics for improved organizational performance
			CO3	**Explain** the concepts of change management as a means to attain organizational effectiveness
			CO4	**Associate** the relationship between Organizational culture, climate, Morale and conflicts in achieving the organizational effectiveness
5.	**BBA 202**	Information Technology for Business (Theory and Practical)	CO1	Acquire the basic knowledge of computers
			CO2	**Understand and apply** IT in business operations
			CO3	Demonstrate the various security issues in business operations and protection from IT threats

			CO4	**Evaluate and construct** IT services to maintain office management
6.	**BBA 203**	Financial Accounting	CO1	**Understand** the basic concepts of financial accounting
			CO2	**Prepare** financial statements in accordance with Generally Accepted Accounting Principles
			CO3	**Prepare**, **interpret and analyze** the financial position of the business
			CO4	**Gain knowledge** on various accounting standards at National and International level
7.	**IIIBBA 301**	Human Resource Management	CO1	**Understand** the Fundamentals and challenges of Human Resource Management .
			CO2	**Demonstrate** the Concepts of Procurement & Development of the HumanResources for wise business decisions
			CO3	**Illustrate** the role of labor relation in sustaining the Healthy Industrial Relations.
			CO4	**Demonstrate** the Relationship among QWL, Organizational culture and Climate in establishing the sound HR policies and Practices
8.	**BBA 302**		CO	Understand the statistics terminology and importance of data representation in Business

		Business Statistics	1	
			CO2	**Illustrate** various measures of central tendency for effective Business decision
			CO3	**Demonstrating** the forecasting techniques through correlation and Regression analysis for interpreting Business Results
			CO4	**Outline** the concept and significance of Probability theories and Sampling techniques in acquiring accurate business results
9.	**BBA 303**	Financial Management	CO1	**Define** key financial terms (e.g., Corporate finance, Time preference for money,Working capital, Shareholders etc.) used in Business for prudent Decision making
			CO2	**Describe** applications of options in financial management
			CO3	**Demonstrate** the present and Future value and various capital budgeting techniques using the concept of time value/preference for money for solving related business issues
			CO4	**Evaluate** investments in various sources of finance, working capital and long-term assets
10.	**IV**	Business Law and Ethics	CO1	**Understand** the fundamentals in Business law and its role of law in an economics political and social context.

	BBA 401		CO2	**Present** the various laws prevailing to consumers to protect them from fraudulent business practices.
			CO3	**Illustrate** the necessary requirements for the establishment and winding up of a company
			CO4	**Demonstrate** Ethics and value consideration in business for legitimate business operations
11.	**BBA 402**	Entrepreneurship Development And SME	CO1	**Understand** the importance of entrepreneurs in the society
			CO2	**Develop** and strengthen the entrepreneurial qualities and spirit
			CO3	**Demonstrate** the concepts in project finance is its necessary element
			CO4	**Illustrate** the necessary conditions for the growth and development of the SME sector
12.	**BBA 403**	Market Research	CO1	**Understand** the concept and process of the research in the business environment
			CO2	**Illustrate** the tools and techniques for exploratory, conclusive and casual research
			CO	**Demonstrate** the business research tools in Marketing decision making

			3	
			CO4	**Integrate** the statistical techniques for analysis of research data and report writing

VIII. MCA : Course Outcomes

S.No.	SEM/ Course code	Course Title		Course Outcome
1.	**I MCAN 101**	**Mathematical Foundations of Computer Science**	CO1	**Compute** the solution of Homogeneous and Non-homogeneous Recurrence relations.
			CO2	**Explain** and prove fundamental mathematical concepts such as sets, relations, functions, and recurrence relations using logical notation.

			CO3	**Utilize** basic number theoretic and algebraic concepts to analyze and solve practical computing problems.
			CO4	**Apply** structural principles of graphs and trees in figuring and solving real-life problems.
2.	**I MCAN 102**	**Data Structures using C**	CO1	**Understand** the basics of C-Programming and to represent data items in real-world problems.
			CO2	**Apply** linear and non-linear data structures operations using C .
			CO3	**Develop** skills to apply appropriate data structures in problem-solving.
			CO4	**Apply** hashing concepts and evaluate the sorting algorithm for an application.
	I MCAN 103	**Object Oriented Programming using Java**	CO1	**Understand** the OOPs concepts to solve real-world problems.
			CO2	**Develop** programs using Java collection framework and I/O classes.
			CO3	**Design** GUI-based applications using AWT Controls in par with scientific competence.
			CO4	**Create** Java programs that solve simple business problems.
	I MCAN 104	**Computer Architecture**	CO1	**Understand** the design of the functional units of a digital computer system to enhance performance of IT tools.
			CO2	**Manipulate** representations of numbers, registers and microprocessors stored in digital computer to solve complex engineering problems.
			CO3	**Explain** the concept of Instruction sets, addressing modes in solving computer arithmetic problems.

			CO4	**Understand** the basics of pipelined architectures to pursue better career options in computer manufacturing organizations.
	I **MCAN 105**	**Probability&Statistics**	CO1	**Identify** the characteristics of vector spaces, different probability, and sampling distributions.
			CO2	**Apply** the basic probability rules including sampling replacements, analysis of variance, and making decisions.
			CO3	**Translate** real-world problems into probability models.
			CO4	**Acquire** knowledge on vital statistics, testing hypothesis and calculate an interval estimates of the mean and proportion.
	I **MCAN 106**	**Managerial Economics and Accountancy**	CO1	**Apply** the fundamental concepts of managerial economics to evaluate business decisions.
			CO2	**Understand** types of demand and determinants to overcome the consequences of different forms of markets.
			CO3	**Identify** different types of markets and determine price–output under perfect competition to analyze the market needs.
			CO4	**Analyze** and communicate the applications of economics to managerial issues and articulate possible solutions.
	I **MAOC 111**	**Soft Skills Lab**	CO1	**Develops** clarity on career exploration process and to match their skills and interests with a chosen career path.
			CO2	**Explains** the use of functional and chronological resume.
			CO3	**Develops** thinking ability and polish their expression in terms of communication skills in group discussions.

			CO4	**Apply** Knowledge for the personal interview through mock interviews while being aware of the various kinds of interviews.
	MCAN 112	**Data Structures using C Lab**	CO1	**Understand** the importance of data structures in the context of writing efficient programs.
			CO2	**Implement** functions and recursive functions in C.
			CO3	**Design** and analyze the time and space efficiency of the data structure.
			CO4	**Choose** an appropriate sorting algorithm for an application and apply it in a modularized way.
	I **MCAN 113**	**Java Programming Lab**	CO1	**Create** logically strong I/O programs in par with real-world problems.
			CO2	**Develop** simple Java programs using Java collection framework.
			CO3	**Design** multithreaded programs and understand the client-server environment.
			CO4	**Develop** GUI programs using swing controls in Java.
2.	II **MCAN 201**	**Operating Systems**	CO1	**Understand** the operating system concepts and working of various components
			CO2	**Illustrate** different process scheduling algorithms and synchronization techniques to achieve better performance of a computer system
			CO3	**Analyze** different approaches to memory management, protection and security issues.
			CO4	**Apply** the process management, scheduling, and memory management in Linux Environment
	II **MCAN**	**Database Management**	CO1	**Understan**d the theories and techniques in developing database applications and design the entity-relationship model.

	202	**System**	CO2	**Apply** the relational database theory to formulate advanced SQL queries for developing real-time database applications.
			CO3	**Identify** the key notions of query evaluation and optimization techniques to have a high-level understanding of major DBMS components.
			CO4	**Formulate** queries using SQL and apply Normalization to design enterprise-level databases.
	II **MCAN 203**	**Design and Analysis of Algorithms**	CO1	**Analyze** and apply the asymptotic performance of algorithms to design an innovative solution
			CO2	**Design** and develop algorithms using Greedy, Divide and Conquer, Dynamic Programming and Backtracking for problem-solving.
			CO3	**Evaluate** the efficiency of alternative solutions derived for a problem by applying traversal and searching techniques.
			CO4	**Analyze** the performance of algorithmic design techniques using P, NP, NP-Hard and NP-Complete.
	II **MCAN 204**	**Artificial Intelligence**	CO1	**Analyze** the implications of applying AI systems to Organizations to meet the technical requirements.
			CO2	**Create** organizational intelligence using a holistic approach to enterprise systems based on knowledge representation approaches.
			CO3	**Solve** real-world problems in organizational processes and workflows by applying critical thinking and problem-solving skills.
			CO4	**Integrate** the importance of Artificial Neural Networks in the current competitive world and implement appropriate intelligent systems.

	II **MCAN 205**	**Machine Learning**	CO1	**Analyze** proficiency in applying the machine learning algorithms to solve problems of moderate complexity
			CO2	**Identify** suitable patterns of Machine Learning models for different regression problems and apply principles to evaluate them.
			CO3	**Understand** the key issues in Machine Learning and its associated applications to design intelligent systems with scientific competence.
			CO4	**Design** and implement various machine learning algorithms in a range of real-world applications.
	II **MCAN 206**	**Operations Research**	CO1	**Analyze** any real-life system with finite constraints and formulate the problem into a mathematical model.
			CO2	**Understand a variety** of problems such as linear programming, assignment, transportation, dynamic programming etc.
			CO3	**Identify** and simulate different real-life probabilistic situations using best strategy methods of game theory.
			CO4	**Formulate** and solve problems as networks and graphs.
	II **MAOC 201**	**Fundamentals of Digital Marketing**	CO1	**Illustrate** a comprehensive understanding of the impact of marketing in the digital environment in real-world scenarios.
			CO2	**Develop** a digital marketing plan that will address common marketing challenges.
			CO3	**Comprehend** the importance of conversion and working with digital marketing campaigns.
			CO4	**Analyze** the key digital marketing activities needed for competitive success.
	II	**Operating Systems**	CO1	**Understand** basic programs on CPU scheduling.

	MCAN 211	**Lab**	CO2	**Create** memory management algorithms using shell programming.
			CO3	**Demonstrate** programs on synchronization problems.
			CO4	**Create** disk scheduling algorithms.
	II MCAN 212	**DBMS Lab**	CO1	**Creat**e Database Tables by using SQL commands.
			CO2	**Develop** PL/SQL programs using stored procedures, functions, cursors and packages.
			CO3	**Illustrate** user access and authorization controls for data security
			CO4	**Design** and build Forms and Reports using advanced SQL.
3.	**III MCAN 301**	**Software Engineering**	CO1	**Classify** various software engineering methods and process models for solving software problems.
			CO2	**Summarize** the requirements analysis to organize SRS documents and demonstrate the software design approaches.
			CO3	**Apply** various software design models using function-oriented and object-oriented designs.
			CO4	**Illustrate** the code and explain different testing approaches in the final stage of project development.
	III MCAN 302	**Computer Networks**	CO1	**Recognize** the technological trends of Computer Networking for connecting the ITools.
			CO2	**Understand** the concepts of data communication to operate networks using ISO model.
			CO3	**Analyze** and design the topological and routing strategies for an IP-based networking infrastructure.
			CO4	**Apply** channel allocation, framing, error and flow control techniques to minimize the cyber-attacks in a network.

	III MCAN303	**Data Science**	CO1	**Understand** the fundamental concepts of data science to nurture their analytical skills.
			CO2	**Describe** decision trees, regression methods and explain the applicability of these algorithms to solve data science problems.
			CO3	**Solve** data analytical problems using neural networks and support vector machines.
			CO4	**Evaluate** & improve the performance of classification and clustering techniques.
	III MCAN 304	**Python Programming**	CO1	**Understand** core programming basics using functions in Python Programming.
			CO2	**Develop** the ability to write database applications in Python.
			CO3	**Discover** high-performance programs using Python packages and modules intended to strengthen the practical expertise.
			CO4	**Identify** real-world application using OOPs, files and exceptional handling provided by Python.
	III MCAN 305A	**Information Security (Professional Elective –I)**	CO1	**Understand** Information security threats, security services, and countermeasures.
			CO2	**Evaluate** the risks faced by computer systems pertaining to Cyber regulations.
			CO3	**Explain** how standard security mechanisms work using firewalls and VPNs.
			CO4	**Apply** cryptography algorithms, digital forensics and protocols to achieve system security.
	III MCAN 306D	**Natural Language Processing**	CO1	**Understand** the fundamental concepts and techniques of Natural Language Processing.
			CO2	**Analyze** large volume text data generated from a range of real-world applications.

		(Professonal Elective-II)	CO3	**Determine** the use of appropriate descriptions, visualizations, and statistics to communicate the problems and their solutions.
			CO4	**Analyze** Parts of Speech tagging for a given natural language and apply modelling techniques based on the vector space model.
	III MCAN 311	**Software Engineering Lab**	CO1	**Gain** the knowledge of selecting a case study and modelling it using nine UML diagrams.
			CO2	**Identify** the requirements and model the use case, sequence, collaboration and activity diagrams.
			CO3	**Implement** structural modeling through collaboration diagrams and dynamic modelling through sequence diagrams.
			CO4	**Understand** the overall system's hardware and software implementation through deployment diagrams.
	III MCAN 313	**Data Science Lab**	CO1	**Demonstrate** how to install and configure R studio.
			CO2	**Visualize** and analyze data sets by use of various plots.
			CO3	**Analyze** Correlation, co-variance, and Regression models.
			CO4	**Evaluate** performance of classification and cluster methods.
	III MCAN 314	**Python Programming Lab**	CO1	**Understand** the basic concepts of scripting and the contributions of scripting language.
			CO2	**Explore** the Object-oriented concepts and the built-in objects of Python.
			CO3	**Create** practical and contemporary applications such as TCP/IP, Network programming, web applications and discrete event simulations.

			CO4	**Interpre**t the fundamental python syntax and semantics for proficiency in data structures like lists, tuples, dictionaries and sets.
	III MCAN 401B	**BigData Analytics (Professional Elective–III)**	CO1	**Understand** Big Data and its analytics in the real-world scenarios.
			CO2	**Articulate** the database concepts related to big data solutions using Hadoop Eco System.
			CO3	**Design** and Implementation of Big Data Analytics using pig and spark to solve data-intensive problems and analytics.
			CO4	**Develop** reports using NoSQL and Manage Job Execution in Hadoop Environment.
	III MCAN 402A	**Cyber Security (Professional Elective–IV)**	CO1	**Analyze** various types of cybercrimes and study legal frameworks to deal with these cybercrimes.
			CO2	**Interpret** the policies and security evolution to understand cyber laws.
			CO3	**Speculate** and assess the cyber security needs of an organization.
			CO4	**Apply** tools used in cybercrimes and laws governing cyberspace.
	III MCAN 403D	**Organization Behavior (Open Elective)**	CO1	**Analyze** the management process and its functions in managerial tasks.
			CO2	**Understand** the approaches of decision-making and negotiations towards planning.
			CO3	**Apply** psychological contract and content theory for the growth of organizations.
			CO4	**Analyze** models of organizational behavior and evaluate organizational culture and design.
	III PROJN	**Project Work**	CO1	**Understand** to capture project requirements and implement software life cycle for the given requirements.

	411		CO2	**Design** a real-time solution for the given software requirement specifications.
			CO3	**Develop** the solution for the chosen problem.
			CO4	**Writes** test cases and develop the entire process of a particular problem

IX. MBA: Course Outcomes				
1.	MBA101	Management and Organizational Behavior	CO 1	Understand the conceptual foundation and theories of organizational behavior.
			CO 2	Develop a good working environment for an individual for the smooth functioning of the organization.
			CO 3	Analyze how to develop coordination, leadership, and teamwork in the organization.
			CO 4	Evaluate the change, conflict, and communication patterns in the organization.
2.	MBA102	Financial Statement, Analysis & Reporting	CO 1	understand, interpret, and analyze general-purpose financial reports.
			CO 2	Understand differing accounting policies and their impact on financial statements.
			CO 3	Evaluate different types of performance measurement systems in accounting and commonly used financial control systems
			CO 4	Demonstrate knowledge of management accounting concepts and techniques
3.	MBA103	Marketing Management	CO 1	Understand the marketing environment
			CO 2	Apply the marketing concepts in business decisions
			CO 3	Analyze the current market trends
			CO 4	Develop the marketing techniques
4.	MBA104	Business Statistics for Decision Making	CO 1	Describe and discuss the key terminologies, concepts, tools, and techniques used in business statistical analysis
			CO 2	Critically evaluate the underlying assumptions of analysis tools
			CO	Discuss critically the uses and limitations of statistical analysis

			3	
			CO 4	Acquire problem-solving ability for complex business decisions, quantitative literacy, and critical
5.	**MBA105B**	Managerial Economics	CO 1	Draw on economics to explain the nature of the firm
			CO 2	Communicate applications of economics to managerial issues and articulate possible solutions.
			CO 3	Evaluate strategies for the successful selling of a product in a specific market situation.
			CO 4	Identify a problem using high-level economic reasoning
6.	**MAOC101**	Indian Ethos & Culture	CO 1	Develop a mindset of value system who are the future managers.
			CO 2	Inherit the ethical principles of business and animate the ethical standards among them.
			CO 3	Able to solve ethical problems and issues in various situations.
			CO 4	Produce balanced, pleasant, flexible, and effective managers in today's liberalized and democratic ambiance.
7.	**MBA201**	Human Resource Management	CO 1	Develop an understanding of human resource management concepts and understand their relevance in the organization.
			CO 2	Develop necessary skill sets for the application of solutions for various HR issues.
			CO 3	Analyze the strategies required to select, train, develop, retain, and compensate the manpower resources.
			CO 4	Explore recent trends in HRM and integrate the knowledge to take correct business decisions.
8.	MBA202	Corporate Finance	CO 1	Understand the concept of the time value of money and its techniques.
			CO	Demonstrate an understanding of the overall role and importance of the finance

			2	functions.
			CO 3	Demonstrate basic financial management knowledge.
			CO 4	Communicate effectively using standard business terminology.
	MBA203	Research Methodology	CO 1	Develop an understanding of the objectives of the research, research process, designs, and sampling.
			CO 2	Learn basic knowledge of qualitative research techniques
			CO 3	Develop adequate knowledge of measurement & scaling techniques as well as the quantitative data analysis
			CO 4	Understand and apply data analysis and hypothesis testing for solving business issues
	MBA204 B	Entrepreneurship & Small Business Management	CO 1	Gain an understanding of entrepreneurship
			CO 2	Learn the motives of being an entrepreneur
			CO 3	Analyze the challenges and risks associated with entrepreneurship
			CO 4	Apply an entrepreneurial attitude to initiate a business
	MBA205 B	IT for Managers	CO 1	Discuss the importance of the manager's role in implementing information technology
			CO 2	Define the characteristics of information in a business organization
			CO 3	List the major trends of information technology and their implications
			CO 4	Understand the use of information in the decision-making process in an organization
			CO	Apply the analytical and practical skills learned during the course.

	MBA301	Operations Research	1	
			CO 2	Inculcate and develop logical reasoning and aptitude to make the students well-equipped to work on complex issues.
			CO 3	Impart comprehensive knowledge and understanding of advanced theoretical fundamentals in Operational Research.
			CO 4	Equip students with essential Research & Developments in Operational Research.
	MBA302	Global Business	CO 1	Explain the concept of the various constituents of the environment and their impact on businesses.
			CO 2	Apply the trade, investment, exchange rate, and regional trading bloc theories and their impact on economic welfare.
			CO 3	Analyze the principle and the different exchange rate regimes' impact on businesses.
			CO 4	Understand diversity and inclusion's dynamics, benefits, and challenges within teams or organizations.
	MBA303	Operations Management	CO 1	Develop an interpretation of various aspects of operations management
			CO 2	Categorize various issues related to operations management
			CO 3	Solve problems related to operational issues.
			CO 4	Connect the planning, organizing, and controlling aspects of operations management.
	MBA304 A	Financial Derivatives	CO 1	Understand financial derivatives (forwards, futures, options & swaps).
			CO 2	Measure the risk in financial derivatives.
			CO 3	Learn to use these tools for hedging as well as trading.
			CO	Categorize and be aware of the positive and destructive sides of leverage.

			4	
	MBA304 B	Compensation & Benefits Management	CO 1	Classify the various forms of compensation.
			CO 2	Relate the compensation concepts with real-world examples.
			CO 3	Write the competencies and map them with the compensation.
			CO 4	Develop an understanding to design a compensation system
	MBA304 C	Product and Brand Management	CO 1	Understand the basic concepts in product management and the steps involved in the new product development process
			CO 2	Gain knowledge on branding and its applications
			CO 3	Appreciate the brand management process and apply branding decisions effectively
			CO 4	Identify the best way to launch a product and build brand equity
	MBA304 D	Retail & Supply Chain Management	CO 1	Understand fundamental retail & supply chain management concepts.
			CO 2	Apply knowledge to evaluate and manage an effective supply chain.
			CO 3	Understand the foundational role of logistics as it relates to transportation and warehousing.
			CO 4	Analyze and improve retail & supply chain processes.
	MBA305 A	International Finance	CO 1	Understand Foreign exchange and its relevance to the survival of companies in international markets
			CO 2	Gain knowledge of the International Monetary system
			CO	Demonstrate understanding of international fund flow and International Financial

			3	markets and Instruments.
			CO 4	Analyze techniques to manage short-term assets and techniques of cash management.
	MBA305 B	Organizational Change & Development	CO 1	Develop basic behavioral science skills to be future practitioners of OD.
			CO 2	Develop an awareness of the need for change and understand why organizations fail to change.
			CO 3	Apply various Models and Theories of Planned Change to initiate change.
			CO 4	Analyze activities within an organization and recommend suitable interventions.
	MBA305 C	Integrated Marketing Communication & Promotions	CO 1	**Outline** the nature of IMC and describe its environment
			CO 2	**Evaluate** creative strategies in the light of given marketing objectives and strategies
			CO3	**Analyze** and evaluate the cost-effectiveness of various forms of media
			CO 4	**Critically** evaluate the communication effects and understand the measurement of its effectiveness
	MBA305 D	**Retail Brand Management**	CO 1	**Outline** the meaning of brand and retailing
			CO 2	**Understan**d what marketing means to business executives and academics
			CO3	**Analyze** consumers' perspectives about the brand
			CO 4	**Understand** the ways that retailers use marketing tools and techniques to interact with their customers.
	MIDC 301	**Executive Communication**	CO 1	**Understand** the relevance of communication in an organization
			CO 2	**Improve** negotiation skills in a variety of situations.
			CO3	**Hone** communication and presentation skills to be employable

			CO 4	**Communicate** information data results effectively to key constituents within and external to the organization through effective business letter writing.
	MBA401	**Strategic Management**	CO 1	**Acquire** knowledge of different strategies
			CO 2	**Connect** the internal and external environment of business to real-world examples
			CO3	**Analyze** the strategy formulation process of various companies through case studies
			CO4	**Develop** an attitude towards the industry, market, and strategic business areas.
	MBA402	**E-Business**	CO1	**Understand** the basic concepts of E-commerce
			CO2	**Demonstrate** retailing in E-commerce by using the effectiveness of market research
			CO3	**Describe** Internet trading relationships including Business to Consumer, Business-to-Business, and Intra organizational
			CO4	**Describe** the key features of the Internet, Intranets, and Extranets and explain how they relate to each other
	MBA403	**Crisis and Disaster Management**	CO1	**Describe** Management issues related to disaster
			CO2	**Demonstrate** understanding of different effects of disasters
			CO3	**Inspect** the knowledge about agencies involved in handling crisis management
			CO4	**Apply** knowledge about frameworks and models in successful disaster risk reduction.
	MBA404 A	**Security Analysis and Portfolio Management**	CO1	**Gain** the knowledge about capital market and various investment avenues
			CO2	**Know** the risk-return associated with different investments
			CO3	**Understand** different techniques for evaluating investments.
			CO4	**Apply** knowledge of investment alternatives to create a suitable portfolio
	MBA404 B	**Labour Laws & Employee Relations**	CO1	**Understand i**ndustrial relations and trade unionism
			CO2	**Classify** the various labor laws
			CO3	**Relate** the industrial disputes in the real world and solve them
			CO4	**Develop** an awareness of wage legislation in India
	MBA404 C	**Online Marketing**	CO1	**Know** about digital marketing strategy and planning
			CO2	**Able** to create marketing strategies to reach the target audience
			CO3	**Understand** digital marketing issues and offer solutions based on the vital examination of digital marketing information
			CO4	**Gain** knowledge of social media platforms

	MBA404 D	**Retail Consumer Behavior**	CO1	**Understand** attitudes and theories of consumer personality
			CO2	**Able** to understand social class and lifestyle concepts
			CO3	**Understand** the influence of culture on consumer behavior
			CO4	**Apply** the concepts of leadership
	MBA405 A	**Banking & Insurance**	CO1	**Learn** basic banking knowledge
			CO2	**Understand** financial literacy
			CO3	**Able** to develop financial inclusions & lending
			CO4	**State** the concepts of insurance
	MBA405 B	**Performance Management System**	CO1	**Explain** the concept of performance management and the different advantages of implementing well-designed performance management systems.
			CO2	**Explain** and understand that performance management is a tool for performance planning, execution, assessment, and review.
			CO3	**Understand** different approaches to performance measurement.
			CO4	**Design** a performance management system.
	MBA405 C	**Services Marketing**	CO1	**Demonstrate** an extended understanding of the similarities and differences in service-based and physical product-based marketing activities.
			CO2	**Demonstrate** a knowledge of the extended marketing mix for services.
			CO3	**Develop** and justify marketing planning and control systems appropriate to service-based activities.
			CO4	Specify, **analyze** and select markets for specific service products
	MBA405 D	**Retail Visual Merchandise**	CO1	**Outline** the concept of VM in retail in India
			CO2	**Understand** the basic elements of VM
			CO3	**Compute** the concepts of merchandise presentation
			CO4	**Determine** the promotional aspects

M.Sc. CHEMISTRY: COURSE OUTCOMES

S.no.	SEM/Course code	Course Title	CO	Course Outcome
1.	**I MCHE 101**	**Inorganic Chemistry**	CO1	**Define** the Geometry, symmetry and stabilities of the molecules
			CO2	**Classify** the molecules based on symmetry, point groups and reactions mechanisms of Coordination compounds
			CO3	**Apply** the HSAB principle and calculate CFSE values 18 electron rule of coordination compounds
			CO4	**Connect** the molecules with the point groups
	I MCHE 102	**Organic Chemistry**	CO1	**Describe** and recognize the different stereochemical aspects and reaction mechanisms of organic compounds
			CO2	**Interpret** the configuration of stereoisomers, structure of the natural products and predict the reactivity of heterocyclic compounds
			CO3	**Relate** the configurations and reactivity of organic compounds
			CO4	**Sketch** the configurational structures of organic molecules
	I MCHE 103	**Physical Chemistry**	CO1	**Derive** II law and III law of thermodynamics ,Nernst equation and theory of reaction rates
			CO2	**Explain** concept of entropy ,types of electrodes ,operators,complex reactions
			CO3	**Solve** problems on entropy,Debye Huckel theory,hammett and taft equations.
			CO4	**Analyze** Clausius Clapeyron Van't Hoff equation and applications of Schrodinger wave equation for 1-D box
	I MCHE 104	**Analytical techniques and Spectroscopy-I**	CO1	**. Define** and Describe the principles of Analytical Techniques of Spectroscopy and Chromatography with its types and explanation of its application.

			CO2	**Summarize** the spectroscopy and chromatography in respect of comparison, classification, application and techniques of NMR, Raman, Vibration, Electronic spectroscopy and techniques of Chromatography.
			CO3	**Connect** the various classification methods, application and properties of spectroscopy and chromatography to create and illustrate various categories of the same..
			CO4	**Complete** comprehension of theoretical and practical aspects of chromatography and spectroscopy to solve the inter relative principles in well articulated manner to discover the transformation and changes in subject.
	I **MCHE 111**	**Inorganic Chemistry**	CO1	**Prepare** the exact solutions for Qualitative analysis
			CO2	**Synthesize** the inorganic complexes and find their purity.
	I **MCHE 112**	**Organic Chemistry**	CO1	**Synthesize** the organic compounds and finding their melting points
			CO2	**Explain** the reaction mechanism and calculate the percentage yield
	I **MCHE 113**	**Physical Chemistry**	CO1	**Prepare** the solutions of the desired concentrations and desired volume
			CO2	**Know** the principle and handling of analytical Instruments Plot accurate graphs of the desired scale for the calculations
2.	**II** **MCHE 201**	**Inorganic Chemistry**	CO1	**Describe** the reaction mechanism of complexes and memorize the structures of bioinorganic compounds
			CO2	**Predict** the term symbols, orgel diagrams and reaction mechanism of Coordination compounds
			CO3	**Illustrate** the Metal clusters classification, carbonyl scrambling and electron pair theory.
			CO4	**Explain** the role of metals in biological systems.

	II **MCHE 202**	**Organic Chemistry**	CO1	**Recognize** the reaction conditions for a Pericyclic, photochemical and rearrangement rearrangement
			CO2	**Predict** the reaction conditions of Pericyclic and mechanism of organic reactions
			CO3	**Relate** the different theories of Pericyclic reactions and reaction mechanisms of rearrangement reactions.
			CO4	**Explain** the mechanisms of Photochemical and rearrangement reactions.
	II **MCHE 203**	**Physical Chemistry**	CO1	**Describe** thermodynamic properties of ideal and nonideal solutions, Franck condon principle,electronic structure of solids
			CO2	**Discuss** concept of distribution probability,Jablonski diagramSchrodinger wave equation for H- atom
			CO3	**Illustrate** quantum yield,theory of superconductors construction of H ion by MOand VB methods
			CO4	**Distinguish** types of statistics,types of photochemical reactions and characterization of nanomaterials
	II **MCHE 204**	**Analytical techniques and Spectroscopy-II**	CO1	**Define** and describe analytical and spectroscopy techniques, also identify and recognize the practical aspects illustrated with correct explanation to memories in a simple way.
			CO2	**Summaries** the topic by interpreting the classified manner to compare and relate the theoretical and practical contrast of analytical and spectroscopy technique.
			CO3	**Complete** Subject illustration of spectroscopy including electro. NMR, Mass spectroscopy by using well articulated teaching methods
			CO4	To **evaluate** the subject by relating the various spectroscopic data to conclude the subject in a simple manner.
	II **MCHE 211**	**Inorganic Chemistry**	CO1	**Estimate** Gravimetric and volumetric estimation of mixture of metal ions
			CO2	**Estimate** calcium by EDTA titration.

	II **MCHE 112**	**Organic Chemistry**	CO1	**Identify** the functional groups in organic compounds
			CO2	**Apply** the knowledge in analysis of natural compounds used in daily life
	II **MCHE 113**	**Physical Chemistry**	CO1	To **develop** skills in doing experiments in kinetics, Potentiometry and Conductometry. pHmetry Enable the students to prepare data analysis using spreadsheet program
			CO2	**Determine** the strength of strong acid/weak acid Vs strong base by potentiometry and p^H metry
3.	**III** **MCHE 301**	**S**ynthetic Reagents, Advanced NMR, Conformational Analysis and ORD	CO1	**List** the organic reagents and examine the different types of NMR spectroscopy
			CO2	**Explain** the different aspects conformational analysis and organic reagents
			CO3	**Interpret** the Chemical equivalency and non equivalency of carbons and protons through ORD, BBD, APT,DEPT,INEPT and 2D NMR spectroscopy.
			CO4	**Select** the sign of the Cotton effect curve and analyze the CMR and 2D NMR of organic molecules.
	III **MCHE 302**	**Modern Organic Synthesis**	CO1	**Explain** the basic principles of synthesis of reaction
			CO2	**Summarize** the different reaction aspects using the retrosynthetic, stereochemical approach for a feasible reaction.
			CO3	**Use** the reaction conditions to study different named reactions
			CO4	**Solve** the problems based on named reactions.and techniques applied for peptide and oligosaccharide synthesis
	III		CO1	**Explain** the importance of Green Chemistry,supramolecular chemistry,nanomaterials

	MCHE 303A	**Green Chemistry and Organic molecules**	CO2	**Summarize** the principles of Green chemistry and classify non covalent interaction of supramolecular chemistry
			CO3	**Use** the green chemistry reactions with microwave assisted organic synthesis, Discuss the different molecular devices made of nanomaterials and types of carbon nanotubes and fullerenes
			CO4	**Categorize** the reactions based on Green Chemistry Principles, applications of nanomaterials and self assembly capsules of supramolecular chemistry
	MCHE 304A	**Biomolecules**	**CO1**	**Describe** the importance, structures and reactions of Biomolecules
			CO2	**Explain** the reaction of Biomolecules
			CO3	**Sketch** the structures of Carbohydrates, nucleic acids, Lipids and Vitamins
			CO4	**Connect** theBiomolecules involved in biological processes
	III **MCHE 311**	**Separation and Identification of Organic compounds**	CO1	**Understand** the principle involved in separation and purification of organic compounds in Binary mixture
			CO2	**Identify** the functional groups in organic compounds.
	III **MCHE 312**	**Synthesis of Heterocyclic compounds**	CO1	**Determine** Multistep synthesis of organic synthesis maintaining the reaction conditions
			CO2	**Demonstrate** the Isolation of natural products and Column chromatography
	III **MIDC 301**	**Environment management**	CO1	**Identify** the Types of pollutants in addition, air, water, soil pollution and Understand the importance of maintaining ecological balance and biodiversity

			CO2	**List** law, regulations and notifications according to water,soil,air quality and pollution.
			CO3	**Understand** the concept applications of EIA
			CO4	**Develop** the concept of Environmental audit
4.	**IV** **MCHE 401**	**Drug Design and Drug Discovery**	CO1	**Relate** the principles, theories and processes involved in drug designing
			CO2	**Compare** the activity of a drug molecule by lead modification
			CO3	**Calculate** the physical parameters of a lead molecule by QSAR.
			CO4	**Categorize** the methods of SAR, QSAR and Combinatorial synthesis.
	IV **MCHE 402**	**Drug synthesis and mechanism of action**	CO1	**Discuss** the basic concept and mechanism of drug action in general that involves ADME
			CO2	**Describe** the structures of macromolecular targets, genetic material DNA, RNA, nervous system and immune system
			CO3	**Explain** the mechanism of action of drug on different system
			CO4	**Write** different chiral drugs with their synthesis and pharmacological activity
	IV **MCHE 403A**	**Advanced Heterocyclic Chemistry**	CO1	**Explain** the conformational aspects ,strains of nonaromatic and aromatic heterocyclics
			CO2	**Discuss** the synthesis of three, four, five and six membered ring heterocycles with one and more than one hetero atom
			CO3	**Write** the reactivity of three, four, five and six membered ring heterocycles with one and more than one hetero atom
			CO4	**Analyze** the pharmacologic activity of heterocyclic compounds

	IV **MCHE 404A**	Advanced Natural products	CO1	**Recall** the biosynthesis and stereoselective synthesis of the natural products
			CO2	**Explain** the different spectra and structural elucidations of natural products
			CO3	**Apply** the biosynthetic pathways for Biosynthesis of Natural products
			CO4	**Conclude** the structure of different natural products by Elucidation and analyze the reagents involved in the stereo selective synthesis of natural products
	IV **MCHE 411**	Spectroscopic identification of organic compounds and Practice of Chemistry software	CO1	**Know** how to conclude the structure of molecule using spectral data
			CO2	Able to **understand** and practice the usage of Chemistry software.
	IV **MCHE 412**	Synthesis and Analysis of Drugs	CO1	**Synthesize**, Estimate and calculate the percent purity of Drugs
			CO2	Able to **learn** different methods of estimations

M.COM: COURSE OUTCOMES				
S.No.	SEM/Course code	Course Title	CO	Course Outcome
1.	I M.COM 101	**MANAGERIAL ECONOMICS**	CO1	To **remembe**r the nature and scope of managerial economies.
			CO2	To **understand** demand analysis,production analysis and cost analysis .
			CO3	To **analyze** and evaluate market structure.
			CO4	To **prepare** and present production and cost analysis
	M.COM 102	**PRINCIPLES OF MARKETING**	CO1	To **remember** the concepts of principles of Marketing.
			CO2	To **understand** and apply the skills of marketing research process
			CO3	**Evaluate** and analyze controllable and uncontrollable factors that affects marketing activities.
			CO4	**Create** the various stages of buying process and factors influencing consumer Purchase Decision
	M.COM 103	**ORGANIZATION THEORY AND BEHAVIOR**	CO1	To **remember** organization theory and organization behavior
			CO2	To **understand** various theories,concepts,approaches,models of organization theory and organization behavior
			CO3	To **analyze** and evaluate various theories of organization
			CO4	To **create** and impart the students about challenges and opportunities of organization theory and organizational behavior.
	M.Com 104	**FINANCIAL MANAGEMENT**	CO1	To **remember** various concepts of financial management.
			CO2	To **apply** and understand capital budgeting,working capital management,financing and dividend decisions
			CO3	To **analyze** and evaluate various techniques of financial management
			CO4	To **create** and learn various tools ,concepts and techniques of financial management
	M.Com 105	**INDIAN ACCOUNTING**	CO1	To **remember** Indian Accounting Standards and its objectives
			CO2	To **understand** and apply Financial Reporting Practices in India

		STANDARDS	CO3	To **analyse** and evaluate Indian Accounting Standards
			CO4	To **present** key financial practices adopted by selected companies
2.	II M.COM 201	**INTERNATIONAL BUSINESS ENVIRONMENT**	CO1	To **remember** international business and business environment
			CO2	To **understand** international trade and Liberalization, privatization and Globalization
			CO3	To **analyze** and evaluate the international business and trade policy and foreign capital
			CO4	To **explore** and present • Corporate Social Responsibility of selected company • NITI Aayog and International Trade-tariff and non-tariff barriers • FEMA, IMF-World Bank-UNCTAD • AOA – GATS – TRIPS – TRIMS • ASEAN-SAARC-NAFTA-BRICS
	M.COM 202	**MARKETING MANAGEMENT**	CO1	To **remember** the concept of Product, Price, Promotion and digital marketing , channel management.
			CO2	To **understand** the various dimensions of Product, Price, Promotion and digital marketing and channels management
			CO3	To **analyze** and evaluate the trends in marketing and 4p's
			CO4	To **select** a product/ company and present its 1. Product Life Cycle 2. Pricing Strategies. 3. Promotion 4. Channel Levels 5. Digital Marketing
	M.Com 203	**HUMAN RESOURCE MANAGEMENT**	CO1	To **remember** the needs of human resource management & emerging developments in the organization.
			CO2	To **understand** the skills of HR necessary for solving the problems HR in an organization
			CO3	**Analyze** and evaluate various facets of performance appraisal and

				compare and contrast it with job evaluation
			CO4	To **create** various facets of work life balance
	M.COM 204	**INVESTMENT MANAGEMENT**	CO1	To **remember** the principles and practice of Investment Management and acquaint the students with the functioning of the Indian Capital Market.
			CO2	To **understand** and impart conceptual knowledge of financial assets
			CO3	To **analyze** and evaluate risk and return analysis , portfolio analysis and portfolio selection.
			CO4	To **learn** about various analysis and models of portfolio
	M.COM 205	**ADVANCED MANAGERIAL ACCOUNTING**	CO1	To **remember** various application of advanced managerial accounting techniques.
			CO2	To **understand** human resource,inflation and responsibility accounting
			CO3	To **evaluate** and analysis financial measures of performance and income measurement
			CO4	To **create** a design and evaluate contemporary issues in management accounting.
3.	III M.COM 301	**RESEARCH METHODOLOGY AND STATISTICAL ANALYSIS**	CO1	To **remember** basics of research and its significance
			CO2	To **understand** and apply the research methodology
			CO3	To **analyze** and evaluate the statistical techniques in analyzing the data
			CO4	To **prepare** and present 1. Literature review 2. Draft research design 3. Draft questionnaire 4. Report writing
	M.COM 302	**E- COMMERCE**	CO1	To **remember** E-Commerce , EDI and computerized accounting
			CO2	To **understand** EDI, E-Commerce and EP mechanism
			CO3	To **analyze** and evaluate E-Commerce Models, EP mechanism and computerized

			CO4	To **prepare** and present final accounts using computers and design webpage using HTML.
	M.COM 303	**COST ACCOUNTING AND CONTROL**	CO1	To **remember** various types and accounting methodology of costing.
			CO2	To **Understand** process,marginal,absorption,differential and standard costing
			CO3	To **analyse** and evaluate budget,budgeting and budgetary control
			CO4	To **create** and compute process,marginal,absorption,differential and standard costing.
	M.COM 304	**INTERNATIONAL FINANCIAL MANAGEMENT**	CO1	CO1 To **remember** various concepts,decisions and applications of international financial management.
			CO2	CO2 To **understand** foreign exchange market,exchange rate mechanism.international investment and international financial decisions.
			CO3	CO3 To **analyse** and evaluate measurement of foreign exchange exposure and Foreign direct investment.
			CO4	CO4 To **create** international capital budgeting and international financial instruments.
	M.COM 305	**SECURITIES ANALYSIS AND PORTFOLIO MANAGEMENT**	CO1	To **remember** the need of various theories of securities analysis
			CO2	To **understand** and apply various combinations of securities to obtain optimum return with minimum risk.
			CO3	**Analyze** and evaluate different techniques of portfolio in capital market.
			CO4	To **create** various facets of fluctuations that occur in equity shares prices cause substantial gains or losses to investors.
4.	IV M.COM 401	**QUANTITATIVE TECHNIQUES FOR**	CO1	To **remember** various Quantitative techniques for business decision.
			CO2	To **understand** and apply various Quantitative techniques for

		BUSINESS DECISIONS		business decision
			CO3	To **analyse** and evaluate various Quantitative techniques for business decision
			CO4	To **apply** and present various Quantitative techniques for business decision
	M.COM402	**BUSINESS & CORPORATE TAXATION**	CO1	To **remember** Theoretical and Practical aspects of Assessing Partnership Firms, Companies, Co-operatives and Trusts
			CO2	To **understand** fundamentals of GST and Customs ACT.
			CO3	To **analyse** and evaluate Assessment of Partnership Firms, Companies, Co-operatives and Trusts
			CO4	To **create** and compute total income of Partnership Firms, Companies, Co-operatives and Trusts
	M.COM403	**STRATEGIC MANAGEMENT**	CO1	To **remember** various models of strategies
			CO2	To **understand** and apply various environment analysis and impact on various models.
			CO3	To **analyze** and evaluate various techniques for strategic and operational control
			CO4	To **create** performance evaluation and report to the organization
	M.COM404	**FINANCIAL SERVICES**	CO1	To **remember** the various types of factoring.
			CO2	To **understand** the role of banks in providing discounting, factoring and forfeiting
			CO3	To **analyse** and evaluate mutual funds and future prospects in mutual funds
			CO4	To **Create** innovative financial services offered to met the varied requirement of both the corporate and individual customers
	M.COM405	**FINANCIAL DERIVATIVES**	CO1	To **remember** financial derivatives concepts and it's types.
			CO2	To **understand** forward,futures,options,swaps and stock index futures.
			CO3	To **analyze** and evaluate various models in options
			CO4	To **create** and to develop skills of Pricing and Valuing Swaps

	PRJT411	**Project Work**		Students are given training on how to refer research articles journals, to **understand** what is the existing knowledge in the field of topic to be selected .
				Understand the areas of Business Research Activities in selection of topics for dissertation, identifying research gaps.
				Evaluate the methodology, data collection tools, target respondent, sample and sample size, right methods of data analysis etc.
				Create a valid conclusion after detailed analysis.

M.Sc. – Clinical Nutrition and Dietetics

S.No.	SEM/Course code	Course Title	CO	Course Outcome
1.	**I MNUT 101**	**Human Physiology I**	CO1	**Explain** the normal functioning of the organ systems of human body
			CO2	**Classify** the hormones, nervous system and role of mechanism of the hormone action and urine formation
			CO3	**Draw** well labelled **diagram** of the organs of human body and **apply** this knowledge to path physiology of diseases
			CO4	**Explain** the role of the immune system in maintaining health and contributing to disease.
	I MNUT 102	**Nutritional Biochemistry I**	CO1	**Describe** digestion and assimilation of nutrients and consequences of malnutrition
			CO2	**Outline** the classification of the carbohydrates, proteins, amino acids and nucleic acids
			CO3	**Illustrate** the metabolism of carbohydrates through various anabolic and catabolic pathways like glycolysis, Kreb's cycle, Glycogen metabolism, HMP Pathways etc.
			CO4	**Explain** the protein synthesis, metabolism of purines and pyrimidines and their deficiency disorders.
	I MNUT 112	**Nutritional Biochemistry I**	CO1	**Separate** the amino acids and fatty acids by paper chromatography method.
			CO2	**Estimate** the calcium and ascorbic acid content in the given food samples.
	I MNUT 103	**FOOD SCIENCE**	CO1	Analyze the structure of foods and Compare the nutrient composition of foods.
			CO2	Classify foods based on food processing and explain the methods of processing different foods.
			CO3	Interpret the factors which affects the nutritive value of foods, Classify the methods of cooking different foods.

			CO4	Choose foods based on quality, Decide storage conditions and subjective and objective evaluation of foods
	I MNUT 104	**PUBLIC HEALTH AND COMMUNITY NUTRITION**	CO1	Recall the different methods of carrying out nutrition assessment for people of all ages.
			CO2	Explain and choose most appropriate tools of health promotion and nutrition education in a community.
			CO3	Analyze the common nutritional problems and the measures taken by the government to tackle them.
			CO4	Explain vital statistics, occupational hazards and discuss the role of National and international organizations in combating malnutrition.
	I MNUT-105	**NUTRACEUTICALS AND NUTRIGENOMICS**	CO1	Explain the important components of nutraceuticals, gene nutrition, phytochemicals and its inter relationship in various disease conditions.
			CO2	Determine the clinical aspect of functional foods and their use in management of chronic diseases.
			CO3	Comprehend the importance of probiotic, prebiotic and symbiotics and antioxidants in human diets for achieving holistic health.
			CO4	Evaluate the standards of evidence required for efficacy, safety and marketing aspects of nutraceuticals and functional foods.
	I MNUT 106	**FOOD PRODUCT DEVELOPMENT AND ENTREPRENEURSHIP**	CO1	Understand the concept of development of a new product and prepare new products
			CO2	Examine sensory and objective evaluation test, score card designing and Instruments used for evaluation of new food products.
			CO3	Select the types of food packing materials
			CO4	Develop entrepreneurial skills.
2.	**II MAOC 201**	**Communicative English and Soft skills (MAOC)**	CO1	Provide the basics of pronunciation.
			CO2	Comprehend business communication, language and vocabulary.
			CO3	Enhance LSRW skills.
			CO4	Develop job skills and soft skills.
	II	**Medical Nutrition**	CO1	Demonstrate advanced skills in nutritional assessment and comprehend the roles

	MNUT 201	**Management -1**		and responsibilities of a dietician in hospital
			CO2	Explain the different metabolic disorders and interactions between nutrients and drug therapy.
			CO3	Describe the pathophysiology and dietary management in various gastrointestinal disorders and febrile conditions.
			CO4	Plan and implement an evidence-based nutritional care approach in critically ill hospitalised patients.
	II MNUT- 211	**MNM- I Practical**	CO1	Explain the clinical and nutritional needs of the patients various disease
			CO2	Design a patient centric customized diet plan based on the clinical and nutritional needs of patients .
	II MNUT 202	**NUTRITIONAL BIOCHEMISTRY II**	CO1	**Outline** the classification of lipids, vitamins and minerals
			CO2	**Illustrate** the metabolism cycles related to lipids, vitamins and minerals
			CO3	Comprehend the interrelationship between carbohydrate, fat and protein metabolism and parathyroid hormone and vitamin D in the regulation of calcium
			CO4	**Illustrate** the Physiological action, transport, utilization, storage, sources, functions and deficiency of lipids, vitamins and minerals
	MNUT 212	**NUTRITIONAL BIOCHEMISTRY II PRACTICALS.**	CO1	Estimatethe Iron content in the food sample by Wong's method
			CO2	Analyse the magnesium, chloride content in the food sample and phosphorus content by fiske and subbarow method.
	II MNUT 203	**FOOD SAFETY AND QUALITY CONTROL:**	CO1	Describe the relevance of food quality, food safety, quality control, quality assurance and total quality management.
			CO2	Explain the laws governing food safety standards and quality control
			CO3	Identify food chain hazards to ensure food safety and quality, and describe various waste disposal and water purification practices.
			CO4	Create a food safety strategy using HACCP concepts.
	II MNUT 213	**FOOD SAFETY AND QUALITY**	CO1	: Detect the adulterants in various food samples and estimate the acidity and hardness of Water

		CONTROL	CO2	Describe & demonstrate microbiological experiments such as basic staining, conventional plate count technique, and nutrient broth preparation
	II MNUT 204	**RESEARCH METHODOLOGY & STATISTICS**	CO1	Acquire knowledge in the overall process of designing a research study.
			CO2	Describe methods of data collection, identify suitable sampling techniques, recognize different scales of measurement and illustrate the data appropriately.
			CO3	Compute relevant descriptive statistics to the given data.
			CO4	Predict using regression analysis and choose appropriate tests of significance to draw inferences about the population.
	II MNUT 201	**COMPUTER APPLICATIONS**	CO1	Understanding the need and use of using Word documents and Excel sheets.
			CO2	Analyze presentation styles and formatting techniques.
			CO3	Understand how to work with SPSS.
			CO4	Analyze and navigate the internet and qualities of using Apps for nutrition.
	III MNUT 301	**MIDC- Needful Nutrition**:	CO1	Comprehend the relationship between diet and health
			CO2	Explain the role of various nutrients in the body
			CO3	Recognise the dietary needs under diverse physiological conditions and co-morbidities.
			CO4	Describe the importance of physical activity for maintaining good health.
3.	**III MNUT 301**	**DIETETIC TECHNIQUES AND PATIENT COUNSELLING**	CO1	Develop aptitude for taking up dietetics as a profession in various settings and comprehend the role and responsibilities of a dietitian in hospitals and community.
			CO2	Demonstrate the ability to communicate effectively with individuals, groups, organizations and communities from various cultural, socioeconomic, organizational and professional backgrounds.

			CO3	Apply psycho analytic, behaviouristic and humanistic approach in diet counselling complicated disorders/diseases in a clinical or community setting.
			CO4	Plan and organise health camps for the welfare of community.
	III MNUT-302	**Medical Nutrition Management-II**	CO1	Define the nature of therapeutic nutrition and identify multiple clinical aspects related to diagnosis, complications and dietary management in acute and chronic diseases.
			CO2	Explain the effects of various metabolic disorders and the comorbidities on the nutritional status of an individual.
			CO3	Determine and classify individual's dietary needs, preferences and acceptance towards food for designing a therapeutic meal plan.
			CO4	Design a diet plan using appropriate dietary principles based on the needs of an individual's health condition.
	III MNUT- 312	**MNM- II Practical**	CO1	Explain the clinical and nutritional needs of the patients with acute and chronic disease conditions.
			CO2	Create a patient centric customized diet plan based on the clinical and nutritional needs of patients .
	III MNUT-303	**Nutrition for Sports, Fitness and Special groups:**	CO1	Explain the fundamentals of physical fitness, sports physiology and impact of exercise on health and fitness
			CO2	Describe the purpose of nutrients and their involvement in sports and fitness
			CO3	Estimate sport-specific nutritional requirements such as diet adjustment before and after games, requirements in female athletes during menstruation, sports anaemia, the function of nutrition in stress, injury fracture, and the use of ergogenic aids.
			CO4	Assess the nutritional need in special groups based on physiological changes and metabolic adaptations & apply sound knowledge of sports nutrition in designing and monitoring diet, exercise and fitness programme.
	III MNUT-313	**DISSERTATION**	CO1	Provide innovative methods and techniques to solve research problems.
			CO2	Interpret the research material in a critical manner and to proceed with an analysis and Critical review

			CO3	Discover and provide a framework within which research is conducted
			CO4	Craft an extensive and comprehensive piece of written work in the most efficient and effective way as a quality research thesis
4.	**IV MNUT-401**	**FOOD SERVICE MANAGEMENT**	CO1	Understand the requirements and management of various food service establishments.
			CO2	Analyze the requirement and organization of space and equipment in food services establishment
			CO3	Demonstrate the different types of food services establishment, delivery, service
			CO4	Evaluate the types of food cost involved and the methods to control them.
	IV MNUT 402A ELECTIVE	**DIABETES PATIENT EDUCATION**	CO1	**Recall** epidemiology and classification of diabetes
			CO2	**Connect** the factors that affect, prevent the complications of diabetes mellitus
			CO3	**Explain** the clinical nutritional management of diabetes
			CO4	**Plan** and **organise** the role plays as a dietician or a nutritionist for different case studies related to diabetes.
	IV MNUT 402B ELECTIVE	**LACTATION COUNSELLING TECHNIQUES**	CO1	Define the Anatomy, Physiology and Mechanism of infant and maternal health and explain the concepts of initiating breastfeeding and artificial feeding.
			CO2	Determine the essentials of breastfeeding position and comprehend the impact of breast pumps and manual expressions.
			CO3	Classify the problems in breastfeeding and correlate the medical conditions like allergies, jaundice and other challenges in infants.
			CO4	Assess the effects of pharmacological drugs and herbal medications on breastfeeding mothers during infectious diseases.
	IV INTP-411	**ONE SEMESTER INTERNSHIP**	CO1	To understand counselling skills and Diet planning skills to the students
			CO2	To apply the knowledge of diet prescription as per clinical situation, patient's likes and dislikes and priorities

			CO3	To develop leadership qualities in the students to function independently
			CO4	To acquire adequate communication skills for proper interactions with the patients and attendants, seniors, peer group and other paramedical workers.

PG DIPLOMA IN NUTRITION & DIETETICS				
S.no.	SEM/Course code	Course Title	CO	Course Outcome
5.	**DNUT 101**	**Clinical Nutrition-I:**	CO1	**Describe** the pathogenesis, signs, symptoms, diagnosis, and nutritional treatment of the major illnesses and disorders.
			CO2	**Articulate** knowledge in the field of advanced clinical nutrition in diet planning, Diet modification, Diet prescription in special diets and feeding.
			CO3	**Demonstrate** advanced skills in nutritional assessment and nutritional care of patients with complicated disorders/diseases in a clinical or community setting.
			CO4	**Plan** and implement an evidence-based approach in management of diseases.
	DNUT 111	**Clinical Nutrition-I (Practical):**	CO1	**Assess** the nutritional needs of the patients with major illnesses and disorders.
			CO2	**Devise** a diet plan based on the needs of the clients.
	DNUT 102	**Clinical nutrition-II:**	CO1	**Identify** and explain key concepts relating to the understanding of the role of nutrition in aetiology, prevention & treatment of disease.
			CO2	**Explain** the different metabolic disorders that are inherited, the interactions between nutrients and medications, food allergies, and the relationship between immunity and nutrition.
			CO3	**Discuss** the purpose of clinical and therapeutic nutrition, its scope, and identify the situation where diet needs modification.
			CO4	**Design** medical nutrition therapy and nutrition support for people with cancer, illnesses involving metabolic stress, and other neurological problems.
	DNUT 113	**Clinical Nutrition-II (Practical):**	CO1	**Develop** skills in measurement of clinical parameters such as blood glucose monitoring, blood pressure estimation, RBC, WBC, Hb levels, and so on.
			CO2	**Modify** and Plan diets for patients under stress such as burns, cancer and surgery.
	DNUT 103	**Human**	CO1	**Explain** the nature, structure, functions and working of various organ system in

		Physiology:		our body.
			CO2	**Describe** the interplay of organ system in digestion, absorption, transport, utilisation and storage of various nutrients in the body.
			CO3	**Categorize** and explain how the primary endocrine glands and their functions affect metabolism.
			CO4	**Apply** the sound knowledge in physiology in understanding the pathophysiology of disease
	DNUT 104	**Dietetic techniques, patient counselling and food service managem ent Theory**	CO1	**Comprehend** the tasks and responsibilities of a dietician in hospitals and food service units and develop professional ethics.
			CO2	**Establish** skill sets for effective communication with patients from various walks of life, and counsel them effectively
			CO3	**Comprehend** and apply the role of information technology in nutrition and dietetics, including the use of software in menu planning, documentation, and record keeping, monitoring budgets in hospitals and food service units.
			CO4	**Evaluate** numerous elements of nutritional care, organise and prioritise essential actions under time constraints, and display problem-solving abilities.
	MAOC 101B	**Communicative English and Soft skills (MAOC)**	CO1	**Provide** the basics of pronunciation.
			CO2	**Comprehend** business communication, language and vocabulary.
			CO3	**Enhance** LSRW skills.
			CO4	**Develop** job skills and soft skills.
6.	**DNUT 201**	**Public Health:**	CO1	**Explain** the broader causes of health and illness and utilise a variety of techniques to assess people's nutritional condition both individually and collectively.
			CO2	**Describe** and choose most appropriate tools of health promotion and nutrition education in a community.
			CO3	**Facilitate** Integrated health care services for prevention, promotion, treatment and rehabilitation through Health education/communication.
			CO4	**Improve** research skills and explain the applications of epidemiology in understanding the control of communicable Disease.

	INTP 211	**Hospital Internship**	CO1	**Observe** and understand the working of the dietary department in a clinical set up
			CO2	**Apply** the knowledge of diet prescription as per clinical situation, patient's preferences to the diet planning
			CO3	**Acquire** adequate communication skills for proper interactions with the patients, medical and other paramedical staff
			CO4	**Develop** leadership qualities to function independently as a clinical dietician

PG Diploma in Data Analytics				
S.no.	**SEM/Course Code**	**Course Title**	**CO**	**Course Outcome**
1.	**DDAT 101**	**Statistical Techniques for Data Analytics (Theory)**	CO1	**Acquire** knowledge in the concepts of Linear Algebra, Descriptive Statistics, Probability distributions, Inferential Statistics and Sampling techniques.
			CO2	**Explain** different scales of measurements and central limit theorem with it's applications in statistical inference.
			CO3	**Distinguish** between discrete and continuous probability distributions and apply them appropriately.
			CO4	**Analyze** the data using descriptive statistics and suitable tests of significance and draw inference.
	DDAT111	**Statistical Techniques for Data Analytics - Practicals (R & Python)**	CO1	**Find** Rank and Inverse
			CO2	**Compute** descriptive statistics
			CO3	**Estimate** sample size and perform tests of significance (Large & Small samples) and draw inference.
	DDAT102	**Predictive Modelling (Theory)**	CO1	**Explain** the concepts of correlation, regression, time series and various regression models – Simple Linear, Multiple Linear, Ridge, Lasso, Poisson and Polynomial Regression and their industry relevance.
			CO2	**Explain** and distinguish various classification models – Logistic Regression, KNN, Naïve Bayes', Decision trees and their working approaches.
			CO3	**Analyze** the data using various classification models- Random Forest, SVM and explain their industry relevance.
			CO4	**Explain** ARIMA and SARIMA models, perform end to end analysis of time series.
	DDAT112	**Predictive**	CO1	**Compute** the correlation coefficients and interpret for the direction, strength and its significance

		Modelling - Practicals (R & Python)	CO2	**Analyze** bivariate & multivariate data using different regression models and categorize the data using different classification models.
			CO3	**Measure** trend using LSM, Moving Averages Method, ARIMA and SARIMA
2.	**DDAT 201**	**EDA and Business Intelligence**	CO1	**Explain** the techniques of data pre-processing, exploratory data analysis and multivariate analysis.
			CO2	**Understand** the concepts of Recommender systems & Sentiment Analysis.
			CO3	**Describe** the analysis of different designs of experiments – CRD, RBD, Factorial Experiments (2^2 & 2^3).
			CO4	**Develop** the skills of data reduction.
3.	**DDAT 211**	**EDA and Business Intelligence - Practicals (R & Python)**	CO1	**Apply** the techniques of data pre processing, illustrate the data using EDA techniques
			CO2	**Analyze** CRD and RBD and draw inferences.
			CO3	**Deduce** the data using PCA, FA and CA.

XIV. English and Second Language: Course Outcomes				
1.	ENG 101	General English	CO1	Prepare for competitive exams and apply for Jobs in Institutions of Higher learning
			CO 2	Comprehend contextual aspects of language through task- based activities
			CO 3	Learn English for success in their professional and personal lives
			CO 4	Demonstrate good communication skills as well as good people skills
2.	ENG 202	General English	CO 1	Prepare learners to analyze the LSRW skills.
			CO 2	Familiarize learners to the various aspects of the state of Telangana
			CO 3	Apply Contextual learning of language through task based activities
			CO 4	Evaluate soft skills and value orientation to channelize youth in a positive direction
3.	ENG 303	General English	CO 1	Identify creative and imaginative skills among learners
			CO 2	Identify creative and imaginative skills among learners
			CO 3	Assess creative and collaborative outcomes of language
			CO 4	Inculcate language practice through language based activities
			CO	Develop and improve interpersonal relations.

4.	ENG404	General English	1	
			CO2	Prepare the students competent enough to face the new global scenario and ensures employability
			CO3	Use Critical thinking and analytical skills
			CO4	Demonstrate Language development activities to improve pronunciation and vocabulary
5.	**V ENG 505**	General English	CO1	Familiarize students on environmental conservation
			CO2	Comprehend Gender equality

			CO3	Develop language through Grammar
			CO4	Identify and utilize technical vocabulary
	VI **ENG 606**	**General English**	CO1	Analyze the importance of success and failure through motivational stories
			CO2	Develop writing skills through resume and CV
			CO3	Assess competency in language
			CO4	Understand Feminism through Literary texts
			CO5	Helps in learning Grammar rules of Arabic. Enables learners to understand the root words.
	I ARA 101	Arabic	CO1	Comprehend the Arabic tradition customs and culture during pre-Islamic period.
			CO2	Memorize basic vocabularies of Semitic languages for beginners.
			CO3	Translate text and develop speaking, reading and writing skills.
			CO4	To create awareness on the correct pronunciation of consonant and vowel sounds
2. .	**II** **ARA 202**	**Arabic**	CO1	Demonstrate the communication skills in Arabic
			CO2	Inculcate moral values into learners through literature.
			CO3	Understand Arabic grammatical concepts through practical lessons.
			CO4	Construct essays in Arabic as general topics

3.	**III** **ARA 303**	**Arabic**	CO1	Impart advanced skills in translation between Arabic and English.
			CO2	Understand Arabic literature and classical prose and poetry.
			CO3	Analyze the social and political system of Arabic during Umayyad period
			CO4	Provide general fundamental and geographical innovation about the Arabic speaking
4.	**IV** **ARA 404**	**Arabic**	CO1	Analyse the Islamic literature
			CO2	Understand the basic principles and components of Arabic linguistics(grammar, through practice lessons)
			CO3	Know about the life of Arabic writers/poets during Abbasid dynasty
			CO4	Create learners interest in extensive reading of Arabic literature.
1.	**V** **ARA 505**	**Arabic**	CO1	Recall the different feature of modern Arabic literature
			CO2	Understand the different features of some notable authors in prose of Islamic period
			CO3	Develop novel and short story in Arabic literature
			CO4	learn to converse in Arabic through practical lesson
2.	**VI** **ARA 606**	**Arabic**	CO1	Recall the role of Arabic as a medium of communication in advanced level.

			CO2	Train learners the use of Arabic language in various situations and occasions.
			CO3	Evaluate trends and recent developments in modern Arabic prose, novel& short story
			CO4	Exhibit the influence of Arabic language in utility articles for media
3.	I TEL 101	Saahitii Manjiira	CO1	Understand and observe the Telugu literary styles and cultural practices based on Classical poetry.
			CO2	Develop interest and appreciate modern Telugu poetry
			CO3	Recognize the role of non – detail novels on Telugu literature
			CO4	Develop understanding of grammar to enhance learning of Poetry.
4.	**II** **TEL 202**	Saahitii Manjiira	CO1	Examine the writing styles and Cultural influences on literature thru study of classical poetry.
			CO2	Appreciate and recognize the differences in Ancient and modern Poetry
			CO3	Discover impact of modern literature forms: non- details- stories, literary essays.
			CO4	Memorize and blend grammatical aspects used in Telugu literature
1.	**III** **TEL303**	Saahitii Kinnera	CO1	Students completing this course will be equipped to Review Telugu poetry from classical poetry/ epics / classics
			CO2	Indicate distinguished features of Neo - poetry
			CO3	Appraise Drama and non- details in perspective of its influence on modern literature.
			CO4	Combine understanding of poetry with knowledge of grammar to facilitate better appreciation of poetry.
	, **IV** **TEL 404**	Saahitii Kinnera	CO1	Students completing this course will be equipped to Verify through comprehension of classical novels the customs and societal factors
			CO2	Summarize knowledge of modern poetry and critically evaluate the writing techniques involved
			CO3	Illustrate the styles of literature in modern era. Moral stories, literary essays

2.			CO4	Exhibit grammatical skills and develop orientation towards its usage
3.	V	**Saahitii Dhundhubi**	CO1	To define and recognize the elements of poetry and develop skills in music theory
			CO2	Understand functions of essays and reports and demonstrate writing skills
			CO3	Demonstrate the ability to carry out literature research and develop advanced critical thinking skills.
	VI	**Saahitii Dhundhubi**	CO1	Develop communication skills and identify the literary elements related to biographical writing.
			CO2	To Understand the basics of journalism and report news through interviews and translation.
			CO3	To understand project and literature research through hypothesis and reports.
1.	Hin101	**Hindi**	CO1	**Understand** various elements of character, feeling of excitement and reading and writing with proper grammar and language.
			CO2	**Develop** the memorization skills
			CO3	**Develop characteristics** of our nation, cultures, unity in its diversity.
			CO4	**Learn** official Hindi through various terminologies.
2.	**II** **Hin 202**	**Hindi**	CO1	**Understand** about human psychology, power of truth and about living a pretentious life.

			CO2	**Illustrate** India's rich culture, heritage, and life of Swami Vivekananda. Students thinking and writing skills will be developed through script writing.
			CO3	**Develop** speaking and writing skills
			CO4	**Learn** about moral values, ethics and different life skills
3.	**III** **Hin 303**	**Hindi**	CO1	**Understand** social ethics and life skills by explanations through Dohas or couplets.
			CO2	**Learn** about devotion, nationalism life skills from different poems.
			CO3	**Develop** writing, speaking and reading skills which they can improve by the studying of comprehension, essay writing and Script writing.
			CO4	**Understanding** the History of Hindi Literature and its development through different eras.
4.	**IV** **Hin 404**	**Hindi**	CO1	**Understand** the dohas of different poets and
			CO2	**Learn and understand** the ideas of dedication, respect and love towards the nation , language and culture are learnt from poems and Dohas
			CO3	**Learning** the History of Hindi Literature and its development era wise.
			CO4	**Understanding** and exploration process of the research article writing
	V		CO1	students will learn different types of languages and their skill
			CO2	Students will **understand** the various dimensions of language
			CO3	Students will analyse and learn how employability will be with the help of language
			CO4	**C**ritical thinking and analytical thinking will be developed
	VI		CO1	Students will learn the usage of translation and put it into use in various fields .
			CO2	Media is the fourth pillar. Students should understand the world of media

			CO3	Critical thinking will be developed through various forms of literature
			CO4	Students will **learn** and create. Creative writing, script writing in TV , Media and film
	I SAN101	**Sanskrit**	CO1	Develop human values, ethics and qualities of a leader through Ramayana and also Acquire knowledge of nature (information about plants and animals) of the Himalayan region of ancient India through Kalidasa's Kumarasambhava Mahakavya
			CO2	Understand and cultivate the qualities of true friendship and honesty and loyalty to others through Vira Shivaji's and Panchatantra stories
			CO3	Understand and apply the knowledge of professional ethics & political strategies etc. through hymns (Neeti slokas) compiled from Sanskrit literature
			CO4	Develop the memorization skills and Analyse comprehension skills and vocabulary through शब्दाः & सन्धयः (Declentions and Sandhis).
2.	**II** **SAN 202**		CO1	Understand the importance of birth through the story of Buddha's life and inculcate the values of sacrifice, humanity and charity. And inculcate the values of sacrifice, humanity and charity in the students through Saktupraths's story from Mahabharata
			CO2	Illustrate India's rich scientific heritage and creating a bridge between ancient knowledge and modern concepts of science and technology with the knowledge of Brihat Samhita
			CO3	Distinguish and explain divine and demonic qualities according to Bhagavadgita and will be motivated to adopt divine qualities
			CO4	Develop and Improve language skills by understanding Dhstus (root words) Samasas
3.	**III** **SAN 303**		CO1	Understand India's rich heritage in different faculties and the scholars & promote the significance of being responsible towards society and nature through Shakuntala's story
			CO2	Develop human values and also narrative skills from Kadambari mahakavya.
			CO3	Understand the power of spirituality through Ramadasa's story.
			CO4	Identify and distinguish the words (Pronouns) according to the gender and the difference between singular, dual and plural forms through 'हलन्तशब्दाः' (Declensions

				ends with Hals).
4.	**IV** **SAN 404**		CO1	Understand and interpret the duties and responsibility of a King and a family man and adapt through Bhavabhuti's Uttararamacharita
			CO2	Understand and apply political, ruling strategies
			CO3	Acquire the qualities of not losing their lives in hatred when faced with insults and persevere in achieving what they want from childhood through Dhruva's story and Swami Vivekananda's experience at Chikago
			CO4	Remember and apply different techniques of grammar and make up their own syntax
5.	**V** **SAN 505**		CO1	Distinguish between good and bad habits and develop the quality of Self-control and knowing the responsibilities to become a good leader.
			CO2	Develop and apply the language skills and can express more interestingly with the knowledge of Alankaras (figures of speech).
			CO3	Understand and apply life skills as taught in तैत्तिरीयोपनिषत् (Taittiriya Upanishat).
			CO4	Understand that wisdom can be developed by conquering ego as taught in कठोपनिषत् (Kathopanishat).
6.	**VI** **SAN 606**		CO1	Develops patriotism by drawing inspiration from Bharata Bharati Kavya
			CO2	Understands the need to adopt a non-conceited and peaceful way of life as described in the Brihadaranyakopanishat
			CO3	Understand and Analyze the inherent meaning of Indian philosophy and follow through the story of Nachiketa described in the Kathopanishad
			CO4	Understand and follow the noble qualities of the ancient scholars and poets
1.	**I** **FRE 101**	**Basic French**	CO1	Recognise the French alphabets and is able to pronounce them
			CO2	Recognise the different French accents and is able to use them correctly
			CO3	Understand the meaning of the Indefinite Articles and its different forms and when and how to use them

			CO4	Understand a few French words.
2.	**II** **FRE 202**	**French**	CO1	Differentiate between the masculine and feminine genders
			CO2	Understand the meaning of the definite article ,its different forms and when and how to use them
			CO3	Understand the meaning of Conjugation of verbs
			CO4	Conjugate the ‘er’,’ir’and ‘re’ group of verbs and irregular verbs
3.	**III** **FRE 303**	**French**	CO1	Understand the system of education in France
			CO2	Apply the acquired knowledge while writing a dialogue
			CO3	Learn to write a sentence grammatically correct in the present tense.
			CO4	Learn the different possessive pronouns and also the concept of reflexive verbs and their usage
4.	**IV** **FRE 404**	**French**	CO1	Learn how to reply a question using the pronoun ‘en’
			CO2	Apply the rules of the placement of adjectives and place them accordingly
			CO3	Understand the French culture
			CO4	Learn to speak and also write in the future tense,