

**K.V.R.GOVERNMENTCOLLEGEFORWOMEN,(A)KURNOOL**

**Accredited with NAAC 'A' Grade**

## **CRITERIA 2.6.1**

**(a) Programme Outcomes (UG & PG)**

**(b) Programme Specific Outcomes (UG & PG)**



**ACADEMIC YEAR 2021-2022**

## Programme Outcomes-UG

<b>Program me</b>	<b>Combination</b>	<b>PO</b>	<b>Programme Outcomes</b>
<b>B.A AE</b>	<b>Advanced English, History, Computer Applications</b>	PO1	Developing and integrating the use of four language skills i.e. listening, speaking, reading and writing.
		PO2	Using English language effectively for written and oral communication.
		PO3	The students acquire knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible enough.
		PO4	The B.A. graduates will be acquainted with the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking.
		PO5	Demonstrate the aptitude of Computer Programming & Computer based problem solving skills.
<b>BA PSY.RD. AT</b>	<b>Psychology, Rural Development, Advanced Telugu</b>	PO1	Understand the role of hereditary and environment on human behavior Enhances psychological knowledge required to be health physically and emotionally
		PO2	The students understood the stages of human development. so they know how to overcome the hazards in several stages Augment the young minds with managerial skills to lead a better family life
		PO3	To impart in-depth practical knowledge in rural development
		PO4	To provide hand hold exposure on agriculture -allied sectors like Dairy, Apiculture, Fishery, Poultry science etc.,to disseminate different rural technologies through various extension activities
		PO5	Students get knowledge to attain competitive exams and also help to develop language skills.
<b>BA H.E.P</b>	<b>History, Economics, Political Science</b>	PO1	To enhance the students comprehension on various concepts of political science
		PO2	To Equip students on latest developments in the subjects
		PO3	To train the students on various competitive arenas and exposure them on the updated knowledge on the course curriculum
<b>BA HPU</b>	<b>History Political Science Advance Urdu</b>	PO1	Students will be able to apply ,assess and debate the major Historical School of thought, Methodology and types of sources that historian to make original arguments papers students have future in participating competitive exam with history back ground.
		PO2	To enhance the students comprehension on various concepts of political science, to Equip students on latest developments in the subjects
		PO3	To train the students on various competitive arenas and exposure them on the updated knowledge on the course

			curriculum
		PO4	To provides more knowledge in its own language mother tongue Urdu in the field of arts and Litrature . The students with opportunities to go for Higher Education and also employment opportunities in private and Govt sector of education as a medium group or second language Urdu.
		PO5	Promotes an in-depth exploration in specific fields, current ways of thinking new methodologies in mass communication, Journalism and teaching the areas of literary research, Criticism and also the field of cinema in the area of poetry and prose like story writing, dialogue setting, cultural and pop songs in Indian most popular language Urdu. Using Urdu language effectively for written and oral communications.
<b>B.Com</b>	<b>B.Com (Computer Applications ) , B.Com (General) and B.Com (Digital Marketing)</b>	PO1	To acquaint students with the basic concepts of commerce and industry. This program could provide Industries, Banking Sectors, Insurance companies, Financing companies, Transport Agencies, Warehousing etc., well trained professionals to meet the requirements.
		PO2	After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, Overall administration abilities of the company.
		PO3	Capability of the students to make decisions at personal & professional level will increase after completion of this course.
		PO4	Students can independently start up their own Business, Apply knowledge of Income Tax laws and procedures to individuals and business
<b>B.Sc., B.Z.C</b>	<b>Botany, Zoology, Chemistry</b>	PO1	Expertise in the basic sciences provides the students with opportunities to go for higher education and also employment opportunities in industries, diagnostics, quality control and Research.
		PO2	Promotes an in- depth exploration in specific fields, current ways of thinking, new discoveries and methodologies of the discipline leading the way towards biological research, health professions, business or education.
		PO3	Expertise in the basic sciences provides the students with opportunities to go for Higher Education and also employment opportunities in industries, diagnostics, quality control and research.
		PO4	Promotes an in-depth exploration in specific fields, current ways of thinking, new discoveries, and methodologies of the discipline leading the way towards biological research, health professions, business and education.
		PO5	<b>5.</b> After the completion of UG program the student gets eligibility to join in PG programme and B.Ed(Physical sciences), MCA, MBA, Student will be eligible to write bank PO/Clerk examinations, SSC, Civil services and other group services examinations
<b>B.Sc Hsc</b>	<b>Food Science</b>	PO1	Understand the multidisciplinary approach to enhance the

	<b>and Nutrition Human Development and Family Studies, Resource Management &amp;Consumer Science, Textile &amp; Fashion Designing, Home science Extension&amp; Communication</b>		quality of life of the individuals, families and communities
		PO2	Conceptualizes the students' knowledge and skill right from where the human life starts.
		PO3	how it develops and expands in varied dimensions through different courses
		PO4	Develop professional skills for social and economic empowerment
		PO5	Develop entrepreneurial skills for social and economic
<b>B.Sc BC.Z.C</b>	<b>Bio-chemistry, Zoology, Chemistry</b>	PO1	Expertise in the Life sciences provides the students with opportunities to go for Higher Education and also employment opportunities in Pharma industries, R&B Labs, Clinical diagnostic Labs, quality control and research. Promotes an in-depth exploration in specific fields, current ways of thinking, new discoveries, and methodologies in the areas of biological research, health. Learn how to design and interpret experiments, thereby contributing to the creation of new knowledge in the fields of biochemistry. Develop an awareness of ethical responsibilities in research.
		PO2	Learn how to design and interpret experiments, thereby contributing to the creation of new knowledge in the fields of biochemistry. Develop an awareness of ethical responsibilities in research.
		PO3	Expertise in the basic sciences provides the students with opportunities to go for Higher Education and also employment opportunities in industries, diagnostics, quality control and research.
		PO4	Promotes an in-depth exploration in specific fields, current ways of thinking, new discoveries, and methodologies of the discipline leading the way towards biological research, health professions, business, and education.
		PO5	After the completion of UG program the student gets eligibility to join in PG programme, B.Ed (Life sciences), MBA, Student will be eligible to write bank PO/Clerk examinations, Civil services and other group services examinations.
<b>B.Sc BT.B.C</b>	<b>Biotechnology, Botany, Chemistry</b>	PO1	1. Expertise in the basic sciences provides the students with opportunities to go for Higher Education and also employment opportunities in industries, diagnostics, quality control and research.
		PO2	Promotes an in-depth exploration in specific fields, current ways of thinking, new discoveries, and methodologies in the areas of biological research, health professional development, business and education
		PO3	Expertise in the basic sciences provides the students with opportunities to go for higher education and also employment opportunities in industries, diagnostics, quality

			control and Research.
		PO4	Promotes an in- depth exploration in specific fields, current ways of thinking, new discoveries and methodologies of the discipline leading the way towards biological research, health professions, business or education
		PO5	After the completion of UG program the student gets eligibility to join in PG programme, B.Ed(Life sciences), MBA, Student will be eligible to write bank PO/Clerk examinations, Civil services and other group services examinations
<b>B.Sc., M.P.C</b>	<b>Mathematics, Physics, Chemistry</b>	PO1	Expertise in the basic sciences provides the students with opportunities to go for Higher Education.
		PO2	Possess a sound understanding of the theoretical foundation of various core subjects.
		PO3	Possess a sound understanding of the theoretical foundation of various core subjects. Acquire analytical and logical thinking skills necessary to pursue higher Education. Gain employment at entry level positions based on program curriculum.After the completion of UG programme the student gets eligibility to join PG programme, MBA, Student will be eligible to write bank PO/Clerk examinations, Civil services and other group services examinations
		PO4	Gain employment at entry level positions based on program curriculum. Ability to construct arguments using correct technical language related to Physics and ability to translate them with popular language when needed.
		PO5	Able to acquire procedural knowledge that creates different types of professionals related to Physics. Application of appropriate methodologies in order to conduct chemical synthesis, analysis and apply relevant knowledge and skills to seek solutions to problems.
<b>B.Sc M.P.Cs</b>	<b>Mathematics, Physics, Computer Science</b>	PO1	Expertise in the basic sciences provides the students with opportunities to go for Higher Education. Possess a sound understanding of the theoretical foundation of various core subjects.
		PO2	The combination integrating all Basic Science courses lays a strong foundation and prepares the learner for research in respective disciplines. Acquire analytical and logical thinking skills.
		PO3	Possess a sound understanding of the theoretical foundation of various core subjects. Acquire analytical and logical thinking skills necessary to pursue higher Education. Gain employment at entry level positions based on program curriculum. After the completion of UG programme the student gets eligibility to join PG programme, MBA, Student will be eligible to write bank PO/Clerk examinations, Civil services and other group services examinations
		PO4	Able to acquire procedural knowledge that creates different types of professionals related to Physics. Demonstrate the aptitude of Computer Programming & Computer based

			problem solving skills.
		PO5	Display the knowledge of appropriate theory, practices & tools for the specification, design, and implementation. Ability to formulate, to model to design solutions, procedure & to use software tools to solve real world problems and evaluate.
<b>B.Sc M.CS.DS</b>	<b>Mathematics, Computer Science, Data Science</b>	PO1	Expertise in the basic sciences provides the students with opportunities to go for Higher Education. Possess a sound understanding of the theoretical foundation of various core subjects.
		PO2	The combination integrating all Basic Science courses lays a strong foundation and prepares the learner for research in respective disciplines.
		PO3	Acquire analytical and logical thinking skills. Gain employment at entry level positions based on program curriculum. Get ability to design, implement and evaluate a computer based system, process, component or program to meet desired needs.
		PO4	Apply the knowledge of mathematics, Computer science to the solution of complex engineering problems. Choose and apply tools and methodologies to solve data science tasks.
		PO5	Ability to gather, describe, and analyze data, and use advanced statistical tools to support decision making. To gather sufficient relevant data, conduct data analytics using scientific methods, and understand appropriate connections between quantitative analysis and real world problems

## Programme Outcomes-PG

<b>Programme</b>	<b>Combination</b>	<b>PO</b>	<b>Program c Outcomes</b>
<b>MA</b>	<b>Telugu</b>	PO1	Telugu literature will help the students to improve values culture and social awareness and patriotism.
		PO2	Students can develop language skills it will help to get employment
<b>MA</b>	<b>English</b>	PO1	To provide an overall view of English Language and Literature.
		PO2	To explore the relevance of the study of Literature to harmonious existence of humanity.
<b>MA</b>	<b>History</b>	PO1	Being a Subject of Social Science, History has its only value in society and human life it help the students to develop their ethical and society value. They could gather knowledge about the heritage and tradition of their own county and the others.
<b>MA</b>	<b>Economics</b>	PO1	Prepare students to develop critical thinking to carry out investigation about various socio-economic issues objectively while bridging the gap between theory and practice. Equip the student with skills to analyze problems, formulate an hypothesis,
		PO2	Evaluate and validate results and draw reasonable conclusions thereof. Prepare students for pursuing research or careers that provide employment
		PO3	Through entrepreneurship and innovative methods. Because

			today's unemployment problem can also be solved by developing the micro and small entrepreneurship Prepare students to develop own thinking opinion regarding current national
		PO4	International policies and issues Create awareness to become a rational and an enlightened citizen so that they can
		PO5	Take the responsibility to spread the governments' initiatives/schemes to the rural areas for the upliftment of the poor or vulnerable section of the society for inclusive growth
<b>M.Com</b>		PO1	This program could provide well trained professionals to Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, warehousing etc., to meet the requirements
		PO2	After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration abilities of the Company
		PO3	Capability of the students to make decisions at personal & professional level will increase after completion of this course.
		PO4	Students can independently start up their own business. Students can get thorough knowledge of finance and commerce
		PO5	The knowledge of different specializations in accounting, costing, banking and finance with the practical exposure helps the students to stand in organization.
<b>M.Sc</b>	<b>Botany</b>	PO1	Think Critically - Get ability to apply the process of science by formulating hypotheses and design experiments based on the scientific method
		PO2	Analyze and interpret results generated through studies in botany, taxonomical treatments, field studies, excursion tours and laboratory techniques used in the subject
		PO3	Use quantitative reasoning by using mathematical calculations and graphing skills to solve problems in plant science (Botany) ,
		PO4	Effective Communication and collaborate with other disciplines by effectively communicating the fundamental concepts of Botany in written and oral format. Identify credible scientific sources to interpret and evaluate the evidences
		PO5	Understand the relationship between science and society by recognizing and discussing logical, scientific and ethical issues in Botany subject. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development with respect to assessment, conservation and utilization of floral diversity
<b>M.Sc Chemistry</b>	<b>Organic Chemistry</b>	PO1	The students after completing M.Sc Chemistry program me they may go for further research either in India and they are also eligible to write Civil Services examinations, Bank Probationary Officers examination..
<b>M.Sc</b>	<b>Computer Science</b>	PO1	Students will be technology-oriented with the knowledge

			and ability to develop creative solutions, and better understand the effects of future developments of computer systems and technology on people and society.
		PO2	Students will get some development experience within a specific field of Computer Science, through project work
		PO3	Students will be familiar with current research within various fields of Computer Science.
		PO4	Students will use creativity, critical thinking and logical thinking abilities in building Programming skill, analysis and research skill
		PO5	Students will know the recent developments IT, future possibilities and limitations, and understand the value of lifelong learning
<b>M.Sc</b>	<b>Zoology</b>	PO1	This is full time programme to impart knowledge and training in different fields of Zoology so as to equip them for higher studies in research and/or job orientation
		PO2	The programme obliges students to read original publications and envisages significant inputs in Laboratory work, communication skills, creativity, planning, execution and critical evaluation of the scientific data
		PO3	The courses formulated have a Zoological slant than biological and are up to date.
		PO4	The course is fine tuned in order to enhance the job opportunities of the students.

## Programme Specific Outcomes-UG

<b>Program me</b>	<b>Combination</b>	<b>PSO</b>	<b>Programme Specific Outcomes</b>
<b>B.A AE</b>	<b>Advanced English, History, Computer Applications</b>	PSO1	To pave the way to know the culture, tradition and life through literature, help in writing critical appreciation.
		PSO2	To face competitive world comfortably, to enhance LSRW skills and to acquaint with world literature and its luminaries.
		PSO3	History makes the students to write examinations i.e., groups, to make the world a better one civil and many more knowing all the mistakes done in the past and also not to repeat them in future, historically, politically and economically.
		PSO4	Gain problem- solving skills and the knowledge of computer Applications to solve real problems.
		PSO5	Understand how technological advances impact society and the social, legal, ethical and cultural ramifications of computer technology and their usage.
<b>BA PSY.RD. AT</b>	<b>Psychology, Rural Development, Advanced Telugu</b>	PSO1	Knowledge base of psychology students will demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings and historical trends in psychology. Students will respect and use critical and creative thinking, skeptical inquiry, and when possible, the scientific approach to solve problems related to behavior and mental process.



		PSO2	Students will be able to communicate effectively in a variety of formats. Students will develop insight into their own and others behavior and mental processes and apply effective strategies for self management and self improvement.
		PSO3	To face the rural reality during the rural living and learning experience To provide knowledge on working of different farm implements
		PSO4	To build the manpower for serving the rural community.
		PSO5	Students should cultivate values and they get social awareness, creativity and language skills.
<b>BA H.E.P</b>	<b>History, Economics, Political Science</b>	PSO1	History makes the students to write examinations i.e., groups, to make the world a better one civil and many more knowing all the mistakes done in the past and also not to repeat them in future, historically, politically and economically.
		PSO2	It helps the students to know history, culture, traditions of India as well as other countries in the world. The students learnt the values in their life and give importance to values and customs and maintain good rapport with others like harmony in the family and society
		PSO3	Equip the students to Participate in the governance as a good citizen of the society ,Analyze political and policy problems and participate in formulating policy options
		PSO4	Use electronic and traditional library resources to research key local, state, national and international policy issues and present
		PSO5	Demonstrate critical thinking, including the ability to form an argument, detect fallacies, and martial evidence, about key issues of public policy and politics Discuss the major theories and concepts of political science and its subfields; and deliver thoughtful and well articulated presentations of research findings
<b>BA HPU</b>	<b>History Political Science Advance Urdu</b>	PSO1	History makes the students of examinations i.e., groups, to make the world a better one civil and many more knowing all the mistakes done in the past and also not to repeat them in future, historically, politically and economically.
		PSO2	To enhance students Comprehension on the basic concepts, theories of Political Science, structures and processes of government systems, equip the students to Participate in the governance as a good citizen of the society, Analyze political and policy problems and participate in formulating policy options
		PSO3	Use electronic and traditional library resources to research key local, state, national and international policy issues and present results, Demonstrate critical thinking, including the ability to form an argument, detect fallacies, and martial evidence, about key issues of public policy and politics, Discuss the major theories and concepts of political science and its subfields; and deliver thoughtful and well articulated presentations of research findings.
		PSO4	Student gain the master skills and writing skills effectively

			as professionals and continue learning within the field of Urdu language knowledge in communicative skills, reading and literature, Gain specific Knowledge on poetry , prose and grammar of language and literature.
		PSO5	The integrated use of Advance Urdu, History and Political Science to achieve the sociological awareness and improving the moral values of all human beings with effect of leadership qualities and citizenship, Knowledge about rules, rights and regulations for the welfare of society and Nation. To enhance LSRW skills.
<b>B.Com</b>	<b>B.Com (Computer Applications ) , B.Com (General) and B.Com (Digital Marketing)</b>	PSO1	To make the students efficient in office automation with computers and computer software applications To facilitate the students to join professional courses, to develop subject skill within various discipline of commerce, business, accounting, economics, finance , auditing and marketing with soft skills in Tally and ERP, E-commerce.
		PSO2	Helps to acquire entrepreneurship skills, to acquire conceptual knowledge of corporate accounting and the techniques of preparing the financial statements.
		PSO3	This program could provide Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, Warehousing etc., well trained professionals to meet the requirements.
		PSO4	After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, and overall Administration abilities of the Company.
		PSO5	The knowledge of different specializations in Accounting, costing, banking and finance with the practical expos.
<b>B.Sc., B.Z.C</b>	<b>Botany, Zoology, Chemistry</b>	PSO1	Students will be able to identify, compare and distinguish various groups of microbes and primitive plants based on their characteristics, will be able to explain the evolution of trachea phytes and also distribution of plants on globe.
		PSO2	Students will be able to discuss on internal structure, embryology and ecological adaptations of plants, and want of conserving Biodiversity, will be able to interpret life processes in plants in relation to physiology and metabolism, able to describe ultra structure of plant cells, inheritance and crop improvement methods, will independently design and conduct simple experiments based on the knowledge acquired in theory and practical of the different sub-courses in Botany
		PSO3	Master fundamental skills to function effectively as professionals and continue learning within the field of Biology.
		PSO4	Provides an understanding of an exploration of how animals have evolved, how they function, and the ways in which they interact with their environment.
		PSO5	An awareness of the impact of chemistry on the environment, society, appraise role of green chemistry in

			environment sustainability The student after completing UG programme with Chemistry is eligible to join in M.Sc Chemistry, Technical assistants in Pharmaceutical companies and diagnostic centers.
<b>B.Sc Hsc</b>	<b>Food Science and Nutrition Human Development and Family Studies, Resource Management &amp; Consumer Science, Textile &amp; Fashion Designing, Home science Extension &amp; Communication</b>	PSO1	Understand the concepts of food science and nutrition and plan to meet the nutritional requirements of family and community.
		PSO2	Understand various dimension of human development across life span and family living with respect to society.
		PSO3	Learn about fibers and fabric construction, current trends in the field of textiles and fashion designing.
		PSO4	Understand the basics of housing, interior decoration and principles & processes of sustainable resource management.
		PSO5	Promote capacity building to extend knowledge and skills from laboratory to the people through effective communication and use of technology
<b>B.Sc BC.Z.C</b>	<b>Bio-chemistry, Zoology, Chemistry</b>	PSO1	Demonstrate an understanding of the chemistry, structure and function of biomolecules, biological mechanisms, such as the processes and control of bioenergetics and metabolism, as chemical reactions, Explain the biochemical processes that underlie the relationship between genotype and phenotype Demonstrate an understanding of the structure and function of both prokaryotic and eukaryotic cells
		PSO2	Demonstrate an understanding of the principles, and have practical experience of, a wide range of biochemical techniques (e.g. basic molecular biology, cell biology and microbiology methods, Spectro photometry, the use of standards for quantification, enzyme kinetics; macromolecular purification, chromatography and electrophoresis) Analyze biochemical data, (e.g. in enzyme kinetics, molecular structure analysis and biological databases
		PSO3	Master fundamental skills to function effectively as professionals and continue learning within the field of Biology. Provides an understanding of an exploration of how animals have evolved, how they function, and the ways in which they interact with their environment.
		PSO4	An awareness of the impact of chemistry on the environment, society, appraise role of green chemistry in environment sustainability.
		PSO5	The student after completing UG programme with Chemistry is eligible to join in M.Sc Chemistry, Technical assistants in Pharmaceutical companies and diagnostic centers.
<b>B.Sc BT.B.C</b>	<b>Biotechnology, Botany, Chemistry</b>	PSO1	Master fundamental skills to function effectively as professionals and continue learning within the field of Biology, gain fundamental Knowledge on Bio-molecules of microorganisms
		PSO2	The integrated use of Biotechnology, Botany and Chemistry to achieve the technological application of scientific and engineering principles for processing of materials by

			biological agents to provide goods and service for the welfare of mankind.
		PSO3	Students will be able to identify, compare and distinguish various groups of microbes and primitive plants based on their characteristics, will be able to explain the evolution of trachea phytes and also distribution of plants on globe.
		PSO4	Students will be able to discuss on internal structure, embryology and ecological adaptations of plants, and want of conserving Biodiversity, interpret life processes in plants in relation to physiology and metabolism, to describe ultra structure of plant cells, inheritance and crop improvement methods, design and conduct simple experiments based on the knowledge acquired in theory and practical's of the different sub-courses in Botany.
		PSO5	The student after completing UG program me with Chemistry is eligible to join in M.Sc Chemistry, Technical assistants in Pharmaceutical companies and diagnostic centers.
<b>B.Sc., M.P.C</b>	<b>Mathematics, Physics, Chemistry</b>	PSO1	Develop proficiency in high level mathematical methods, Involving students in discussions, problem-solving and out of box thinking about various ideas of mathematics and their applicability, which may lead to empowerment and enhancement of the social welfare at large.
		PSO2	Motivating the learners to understand various concepts of mathematics keeping in view the regional context. Enabling learners to create research atmosphere in mathematical sciences in their colleges/institutes/universities.
		PSO3	Master a broad set of knowledge concerning the fundamentals in the basic areas of Physics.
		PSO4	Demonstration of systematic understanding of the fundamental concepts, principles and process underlying the academic field of chemistry, its different sub-fields, and its linkages, Usage of chemical techniques relevant to academia and industry, generic skills and global competencies including knowledge and skills that enable students to undertake further studies in the field of chemistry.
		PSO5	Procedural knowledge that creates different types of professionals in the field of chemistry and related fields such as pharmaceuticals, chemical industry, teaching, research, environmental monitoring, product quality, consumer goods industry, food products, cosmetics industry, To adopt hands on lab work and practical activities which develop problem solving abilities required for successful career in pharmaceuticals, chemical industry and in research
<b>B.Sc M.P.Cs</b>	<b>Mathematics, Physics, Computer Science</b>	PSO1	Develop proficiency in high level mathematical methods, Involving students in discussions, problem-solving and out of box thinking about various ideas of mathematics and their applicability, which may lead to empowerment and enhancement of the social welfare at large.

		PSO2	Motivating the learners to understand various concepts of mathematics keeping in view the regional context. Enabling learners to create research atmosphere in mathematical sciences in their colleges/institutes/universities.
		PSO3	Master a broad set of knowledge concerning the fundamentals in the basic areas of Physics.
		PSO4	Mastery in the core areas Algorithms, Programming Languages, Data Structures, Databases, Software Engineering and Development. Gain problem- solving skills and the knowledge of computer science to solve real problems.
		PSO5	Understand how technological advances impact society and the social, legal, ethical and cultural ramifications of computer technology and their usage.
<b>B.Sc M.CS.DS</b>	<b>Mathematics, Computer Science, Data Science</b>	PSO1	Develop proficiency in high level mathematical methods, Involving students in discussions, problem-solving and out of box thinking about various ideas of mathematics and their applicability, which may lead to empowerment and enhancement of the social welfare at large.
		PSO2	Motivating the learners to understand various concepts of mathematics keeping in view the regional context. Enabling learners to create research atmosphere in mathematical sciences in their colleges/institutes/universities.
		PSO3	Mastery in the core areas Algorithms, Programming Languages, Data Structures, Databases, Software Engineering and Development. Apply problem- solving skills and the knowledge of computer science to solve real problems. Understand how technological advances impact society and the social, legal, ethical and cultural ramifications of computer technology and their usage.
		PSO4	Ability to gather, describe, and analyze data, and use advanced statistical tools to support decision making. To gather sufficient relevant data, conduct data analytics using scientific methods, and understand appropriate connections between quantitative analysis and real world problems. Understand the exact scopes and possible limitations of each method to provide constructive guidance in decision making.
		PSO5	To Use advanced techniques to conduct thorough and insightful analysis, and interpret the results correctly with detailed and useful information. To make better decisions by using advanced techniques in data analytics. Learn to use analytical tool such as R and Python to manipulate and analyse complex data sets and become proficient in building machine learning models using R and Python.

### Programme Specific Outcomes-PG

Programme	Combination	PSO	Program Specific Outcomes
MA	Telugu	PSO1	Creative writings
		PSO2	Social awareness

		PSO3	Culture and values
		PSO4	Importance of literature
		PSO5	Develop an interest in research
<b>MA</b>	<b>English</b>	PSO1	Development of mastery of English Language and Literature
		PSO2	Exposure to the Indian English Literature in translation
		PSO3	To make the students acquaint with the nuances of language learning
		PSO4	Knowledge of Phonetics and Grammar
<b>MA</b>	<b>History</b>	PSO1	There is huge potentiality in the future of a history students various options are opened to History students to choose their careers.
		PSO2	First of all, history is subject from primary education level to higher study, so they can engage themselves in teaching professions in primary, Secondary and post secondary school.
		PSO3	History is also helpful for those who are all competitive exam.
<b>MA</b>	<b>Economics</b>	PSO1	Understanding the basic assumptions in various economic theories and enhance capabilities of developing ideas based on them
		PSO2	Prepare and motivate students for research studies in Economics especially by developing questionnaire, collecting primary data through field surveys provide knowledge of a wide range of econometric techniques using excel or other statistical software
		PSO3	Motivate students to extract or utilize different websites for secondary data collection, generating concepts for various facets of economic studies and gather latest informations provided by various Universities, UGC, or ICSSR Motivate students in preparing for various competitive examinations, NET, SET
		PSO4	Indian Economic Service etc., by developing or gaining value addition day by day by giving assignments, by following a routine or developing discipline / concentration etc.
<b>M.Com</b>		PSO1	This program could provide well trained professionals to Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, warehousing etc., to meet the requirements
		PSO2	After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration abilities of the Company
		PSO3	Capability of the students to make decisions at personal & professional level will increase after completion of this course
		PSO4	Students can independently start up their own business. Students can get thorough knowledge of finance and commerce.
		PSO5	The knowledge of different specializations in accounting,

			costing, banking and finance with the practical exposure helps the students to stand in organization.
<b>M.Sc</b>	<b>Botany</b>	PSO1	Understanding the classification of plants from cryptogams to Spermatophyte. Identification of the flora in field. Identify classify the plants by using the key characters. Prepare and view specimens for examination using light microscopy.
		PSO2	Study of biodiversity in relation to habitat correlate with climate change, land and forest degradation. Application of Botany in agriculture through study of plant pathology. Paleobotany to trace the evolution of plants.
		PSO3	Understand the ultrastructure and function of cell membranes, cell communications, signaling, genetics, anatomy, taxonomy, ecology and plant Physiology and biochemistry. To understand the multi functionality of plant cells in production of fine chemicals. There wide spread industrial applications.
		PSO4	Molecular and Physiological adaptations in plants in response to biotic and abiotic stress. Genes responsible for stress tolerance genetic engineering of plants.
<b>M.Sc Chemistry</b>	<b>Organic Chemistry</b>	PSO1	The student after completing M.Sc Chemistry may join in Ph.D in Chemistry from various Universities in India and abroad.
		PSO2	They get eligibility to write NET, SLET and they are eligible to work as Chemists in Pharmaceutical companies, Forensic Science, Pollution control board, Quality control, Geology and Mines department etc., Non-government al and Governmental departments.
<b>M.Sc</b>	<b>Computer Science</b>	PSO1	Students will be expertise and enrich their knowledge in the areas like AI, Cloud Computing, Different Programming language, Design and Analysis of Algorithms, Database Technologies, Advanced Operating System, Mobile Technologies, Software Project Management, Data Science and core computing subjects
		PSO2	Students understand all dimensions of the concepts of software application and projects.
		PSO3	Students understand the computer subjects with demonstration of all programming and theoretical concepts with the use of ICT.
		PSO4	Students will develop applications in terms of projects.
		PSO5	Students will be able to apply standard / best industry practices and techniques in developing software systems.
<b>M.Sc</b>	<b>Zoology</b>	PSO1	Understand the basic concepts of animal kingdom including invertebrate & chordate, genetics & evolution, animal physiology.
		PSO2	Comprehend the nature and functions of cell biology, immunology, endocrinology, biomolecules and metabolic regulation, tools and techniques in Biology, developmental biology, neurobiology and molecular biology.
		PSO3	Be aware of environmental biology, biodiversity, wild life

			conservation, animal behavior, and toxicology
		PSO4	Recognize the applications of animal biotechnology & microbiology, enzymology, bioinformatics and biostatistics, economic zoology including sericulture, lac culture and api culture
		PSO5	The students read original publications and envisaged the significant inputs in Laboratory work, communication skills, creativity, planning, execution and critical evaluation of the scientific data



**K.V.R.GOVERNMENT COLLEGE FOR WOMEN (A)**

**KURNOOL**

**Accredited with NAAC 'B++' Grade**

**CRITERIA 2.6.1 Course Outcomes (UG & PG)**



**ACADEMIC YEAR 2021-2022**

## Department of English

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1101-A	General English Paper –I	CO1	To know the importance of listening and to become an active listener
			CO2	To learn phonetics and improve one ‘s pronunciation to be aware of nuances pronunciation and improve one’s spokenEnglish
			CO3	To use Grammar effectively in writing and speaking
			CO4	To demonstrate the use of vocabulary To demonstrate an understanding of writing skills
			CO5	To acquire ability to use soft skills in professional and daily life to use confidently the tools of communication skills
2	2101-B	General English Paper- II	CO1	To make the learners understand the use of language in day to day Life with reference to prose writings and also make them learn extensive reading skills by supplementary reading
			CO2	To make the learners appreciate the poems of indian as well as English poets
			CO3	To make the learners use English in work places by exposing them To write agendas notices circulars and minutes
			CO4	To make hem write effective resume and CVS
3	3101-c	General English Paper- III	CO1	To acquaint student with greatest speeches of the world
			CO2	To make the learners aware of multiple ways of Greetings Requests introductions directions conversational skills etc
			CO3	To make the learners expose the interviews of world famous personalities
			CO4	To make the learn to participate in debates role plays Dialogue writing
			CO5	To make them learn to Describe situations places so as to enable narrative skill

## Department of English-Advanced English

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1411-A	History of English language & literature-1	CO1	Understand the basic structure of old English middle English
			CO2	Influences like Greek ,Latin and French on English grammar and Vocabulary .
			CO3	Demonstrates the use of classic poetic forms
			CO4	Make the students familiarize with the basic poetic forms like Ode Ballad ,sonnet etc
			CO5	Understand the works Shakespeare and Francis bacon
2	2411-B	History of English literature-2	CO1	Demonstrates familiarity with major literary periods
			CO2	Familiarity with several leading writers of the age
			CO3	Make the learners familiar with the works of john Milton

			CO4	Make the student, s family a with shakeaheparinn comedy
			CO5	Demonstrate a skill full use of major poetic devices like simile and metaphor
3	3411-c	An Introduction of English Literature-3	CO1	Analyze and interpret themes found in the restoration period
			CO2	Literature and intellectual movements of the Augustan Age
			CO3	To understand the origin and evolution of drama during the early 16 century
			CO4	To be able to understand and study the concept of comedy and mock_ epic
			CO5	To study the origin and development of the novel in British literature
4	4411-D	An introduction to English Literature-4	CO1	The students could comprehend the major themes and characteristics of Romantic period
			CO2	Major writers of Victorian period their works
			CO3	Make the learners familiar with different types of novel
			CO4	Understand the concept in the novels of Jane Austen
			CO5	Make the learners familiar with the dramatic monologue
5	5411	An outline of 20 century Literature	CO1	Expose the students to the modern English literature
			CO2	The respective major writers of the period
			CO3	Make the learners familiar with modernism and postmodernism
			CO4	Make the learners familiar with the famous dramatists like G.B Shawand Samuel Beckett
			CO5	Different types of plays and novels
6	5412	Glimpses of world Literature	CO1	Acquaint students with common wealth writers
			CO2	Identify the cultural influences
			CO3	The development of commonwealth literature
			CO4	Understand fundamental elements of commonwealth litearature
			CO5	Students will be able to appreciate the cultural differences
7	6411	A Study of Literary Criticism	CO1	To realize the purpose of criticizing the work of art
			CO2	The role of critic and the social purpose of literary criticism
			CO3	Make the students familiar with Literary Critics from Aristotle to T.S.Eliot.
			CO4	To understand the meaning of various literary term of criticism
			CO5	Different types of Criticism
8	6412	Cluster Elective-VIII-A-1 American Literature	CO1	Identify the salient features of literary testes from a broad range of American literary periods
			CO2	To understand the texts from their historical and cultural contexts
			CO3	Understand various Genres of Criticism and background of American Literature
			CO4	Development of American Novel
			CO5	Development of American short story as part of establishing national identity
9	6413	Cluster Elective-VIII-A-2 American Literature	CO1	Expose the students to the various eras of American Literature
			CO2	Make the learners familiar with the major writers of the period
			CO3	Major poets in American Literature like
			CO4	Robert Frost Robert
			CO5	Make the learners familiar with Arthur Miller& Mark Twain
10	6414	Cluster	CO1	Acquaint the students with the major writers of American

		Elective-VIII-A-3 American Literature		Literature
			CO2	Acquaint the learners with the works of Eugene O Neil & Emily Dickenson
			CO3	Acquaint the students with the famous short story writers in American Literature like O Henry.
			CO4	History of American settlements and the struggle for survival racial discrimination.
			CO5	Salient literary texts of the period.

### Department of Telugu

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1121-A	General Telugu I Paper  Kaavya Sudha	CO1	By studying Ancient Poetry students understand the different styles of classical writings and importance of those writings. They can develop moral values, Telugu Tradition and Culture.
			CO2	The study of Mother Tongue students will improve Personality Development.
			CO3	Students should gain the knowledge of classical Literature and trends.
			CO4	Students cultivate the social mobilization and awareness through literature.
			CO5	Student will get the language skills, those are LSRW and develop creative writing on contemporary social issues.
2	2121-B	General Telugu II Paper  Aadhunika Bharathi	CO1	Students gain the knowledge in modern literature and it develops the social awareness.
			CO2	Student can develop himself / herself interest towards history, tradition, culture. It enhances the moral values and incorporates good personality.
			CO3	Students inculcate inner abilities through Telugu Language.
			CO4	Students will get the knowledge of different literary types and their social purpose.
			CO5	Student will get knowledge from modern literature and it will help to get employment through competitive exams.
3	3121	General Telugu III Paper Srujana Bharathi	CO1	Student gets the knowledge towards Linguistics, Letter Writing and Reading Skills.
			CO2	Students Vocabulary will be developed and also develop Social awareness
			CO3	Student's psychological development will be Improved. Moral values will be developed.
			CO4	Students get knowledge in the translation work.
			CO5	Students will get employment through media writing and anchoring etc.,

### Department of Telugu (Advanced Telugu)

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1401	Advance	CO1	Students get knowledge in the classical literature.

		Telugu I	CO2	Students develop interest towards Telugu Epics
			CO3	Students get knowledge about Sanskrit Natakas
			CO4	Students should understand the grammar in classical literature
			CO5	Student will develop language skills
2	2401	Advance Telugu II	CO1	By reading vemanna and neethishataka moral values can be incorporated among students.
			CO2	Students will get interest in Bhava Kavityam.
			CO3	Students can Understand the Dalit literature and its need.
			CO4	students get awareness about women literature
			CO5	Students will inspire through the abhyudayasahityam
3	3401	Advance Telugu III	CO1	Students will know about the ancient Telugu literature.
			CO2	By studying Telugu literature student will develop interest in famous Telugu writers
			CO3	Critical and analytical skills will be developed among the students
			CO4	Students develop creative writing
			CO5	Students develop social awareness
4	4401	Advance Telugu IV	CO1	Students will understand the modern literature
			CO2	Writing skills in different methods will be developed
			CO3	Will aware about social movements and gain knowledge of the modern literature like feminism, dalit and minority writers.
			CO4	Students develop creative writing
			CO5	Students develop social awareness
5	5401	Advance Telugu V	CO1	Comprehensive knowledge of Telugu literature
			CO2	Depth knowledge of Telugu Grammar
			CO3	Students will gain the knowledge of Indian Languages and to know the importance of Telugu.
6	5402	Advance Telugu VI	CO1	By reading journalism, students get the job opportunities and also know about the media. It will helpful to become a Journalist.
			CO2	Students will gain knowledge of Telugu sentence formation and parts of speech.
			CO3	By studying translation, students will get idea about Translation and get opportunities in Different fields.
7	6401	Advance Telugu VII	CO1	Absorbs creative writing features in language structure.
			CO2	Reading folk literature they know the traditions, customs and as well as the life style of people living in janapadas.
			CO3	Practice examining various aspects of literature with a social focus.
8	6402	Advance Telugu VIII -1	CO1	Excellent in employment fields through fine writing skills.
			CO2	Reap the full benefits of mother tongue learning.
			CO3	Fine poetry applies their perspectives to life.
9	6403	Advance Telugu VIII-2	CO1	Understand language, culture, social consciousness and language skills.
			CO2	Social well-being is perceived as a literary benefit depending on the respective subjects
			CO3	Perceive the need of literature for social consciousness for individual construction.
10	6404	Advance Telugu VIII-3	CO1	Learn about language morphology and features.
			CO2	Writing for the media realizes the need for their purpose.

CO3 Understand writing skills appropriate to print electronic media.

### Department of Hindi

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1111 - A	Gadya Sandesh and Katha Lok - I	CO1	To learn and understand the prose. To develop the imagination power in the students The ability to read and comprehend will be developed. The Ability to read and summarize will be developed. To develop the imagination power in the students. To increase vocabulary among students. To generate interest in literature and in reading student literature.
			CO2	To acquaint the students with the writer's style. To give certain facts and lessons through the story. Giving some facts and lessons through the moral stories.
			CO3	Learn and use grammar rules. Will be able to pronounce correctly.
			CO4	Will be aware of official Hindi vocabulary.
			CO5	The ability to write personal letters, Official letters will be developed.
2	2111 - B	Gadya Sandesh and Katha Lok- II	CO1	Understand the relationship between culture and literature. Understanding the Unity in diversity Awareness about HIV-AIDS
			CO2	Understand the short stories and learn moral values.
			CO3	Understanding concepts in Hindi grammar and creating own sentences. Understanding basics and principles of translation. Able to Identify the errors and correct errors in sentences. The Ability to translate the sentences from English to Hindi.
			CO4	Understanding and use of Official Hindi and Designations
			CO5	Students get expertise in Job Application Letters / Covering Letters / Complaint Letters writing, note-making, Paragraph writing, creative writing and RESUME / CV Preparation.
3		Kaavya Deep	CO1	Understanding Ancient and Modern poetry
			CO2	Understand the history of Hindi literature Understand 'Bhaktikaal'
			CO3	Understand and analyze the general essays
			CO4	Practice translation from English to Hindi.
			CO5	Understand functional Hindi, Notification, memorandum, circular letter.

## Department of Urdu

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1131-A	Urdu Poetry	CO1	Know about Urdu new and old poets and their poetry of Ghazals.
			CO2	Remember all the basic concepts of Urdu Ghazal.
			CO3	Read, understand and enjoy Urdu poems.
			CO4	Developing communication skills.
			CO5	Creating awareness in the students about life attitude and environment.
2	2131-B	Urdu Poetry	CO1	Know about the Classical and Modern Poets of Urdu and their poetry.
			CO2	Remember all the basic concepts of Urdu Masnavi
			CO3	To create interest and awareness about the Indian Heritage and culture.
			CO4	To create interest in Poetry Recitation among the students.
			CO5	Developing the Research skills in literature.
3	3131-C	Urdu Prose and Fiction	CO1	Know about the Urdu Novel, Drama, Afsana and Dastaan
			CO2	Remember all the basic concepts of Urdu Novel, Drama, Afsana and Dastaan
			CO3	To provide basic and essential knowledge of Urdu Fiction
			CO4	To train the students in speaking, reading and writing skills.
			CO5	To create interest in Writing own essay in Urdu among the students.

## Department of Urdu (Advanced Urdu)

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1461-A	Afsanvi Adab (Fiction)	CO1	To introduce Urdu Fiction.
			CO2	To create awareness of Urdu Literature.
			CO3	To cater the knowledge of Urdu Fiction.
			CO4	To provide the information on Urdu Novel, Afsana and Drama.
			CO5	To create interest among the students on Urdu Literature.
2	2461-B	Ghair Afsanvi Adab (Non Fiction)	CO1	The student can Know the Ghair Afsanvi Nasr.
			CO2	The student can distinguish between Safarnama, Khaka and Inshaiya.
			CO3	The learner will be aware of the Genres of Urdu Prose.
			CO4	The student will have good knowledge and will develop the comprehension.
			CO5	The learner will able to develop the Literary Taste in students.
3	3461-C	Urdu Poetry	CO1	The Student will able to know about the literary expression of Classical Poetry.
			CO2	The student can learn about the Ghazal, Nazm, Qasida and Marsiya.

			CO3	The learner will aware of Mohsin Kakoorvi's Qasida Laamiyah.
			CO4	The learner will be well aware of Mythological expressions in Urdu Poetry.
			CO5	The student will be well aware of Meer Anees and Marsiya.
4	4461-D	Tareeq e Adb e Urdu (History of Urdu Literature)	CO1	The student has the knowledge of History of Urdu Language and Literature.
			CO2	The learner has detailed knowledge of Dakhni Era of Urdu Literature.
			CO3	The student aware of Dabistan-e-Lucknow and Delhi.
			CO4	The learner well aware of Fort Willem College and its literary importance.
			CO5	The learner has detailed History of Sir Syed and the Aligarh Literary Movement.
5	4462-D	Adbi Tanqeed (Literary Criticism)	CO1	The learner has the awareness of Literary Criticism.
			CO2	The student can know about the critical study of Urdu Literature in detail.
			CO3	The learner can know the Adabi Tanqeed and importance of Literary Criticism.
			CO4	The student well aware of Tazkitati Tanqeed.
			CO5	The student has the good knowledge on Dabistan-e-Tanqeed.
6	5461	Tareeq e Adb e Urdu-1 (History of Urdu Literature-I)	CO1	To bring the knowledge of History of Urdu Language and Literature.
			CO2	To provide the knowledge of different stages of development of Urdu.
			CO3	To impart the knowledge of Dakhni Era of Urdu Literature.
			CO4	To bring the knowledge of Dabistan-e-Lucknow and Delhi.
			CO5	To create the awareness on Fort Willem College and its literary importance.
7	5462	Tareeq e Adb e Urdu-II (History of Urdu Literature-II)	CO1	The student well known of different stages of development of Urdu.
			CO2	To create the awareness on Fort Willem College and its literary importance
			CO3	To educate the History of Sir Syed and the Aligarh Literary Movement.
			CO4	To provide the knowledge of Tanz o mizah
			CO5	To create the awareness on importance personalities of Tanz o Mizah
8	6461	Adbi Tanqeed (Literary Criticism)	CO1	The student can know about the critical study of Urdu Literature in detail.
			CO2	The learner has the awareness of Literary Criticism.
			CO3	To create the awareness on importance personalities of Tanqeed & Criticism
			CO4	To impart the knowledge of Marksi Tanqeed of Urdu Literature.
			CO5	To impart the knowledge of Scientific Tanqeed of Urdu Literature and Ehtisham Hussain.
9	6462	Zara e Iblagh (Mass Media)	CO1	Understand the basics of communication
			CO2	The major concepts/thoughts related to mass communication.
			CO3	The understanding of the fundamentals of communication.



			CO4	The framework in which they operate and major thoughts/concepts related to mass communication
			CO5	Students will be able to trace the history and development of Print and Electronic Medias and will demonstrate an understanding of the origins, functions, and evolution of the Urdu Media.
10	6463	Qawayid (Grammar)	CO1	The student can know about the study of Urdu Grammar in detail.
			CO2	The learner has the awareness of grammar and its types.
			CO3	To provide the knowledge of Ism, Fyel and Sifath
			CO4	To provide the knowledge of Tashbeeh o Isteaara
			CO5	The student well known of different stages of Grammar of Urdu.
11	6464	Tarjuma (Translation)	CO1	The understanding of the fundamentals of Translation.
			CO2	The major concepts/thoughts related to Urdu Translation.
			CO3	The major responsibilities of a Translator
			CO4	The student can know about the study of Urdu Translations in detail.
			CO5	Exercises of Urdu and English Translations.

### Department of Arabic

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1141A	Arabic Classical & Modern Language	CO1	To know the importance of listening and to become an active listener.
			CO2	To learn Phonetics and improve one's pronunciation. To be aware of nuances of pronunciation and improve one's spoken Arabic.
			CO3	To use Grammar effectively in writing and speaking. To demonstrate the use of vocabulary
			CO4	To demonstrate an understanding of writing skills
			CO5	To acquire ability to use soft skills in professional and daily life To use confidently the tools of communication skills
2	2141B	Arabic Classical & Modern Language	CO1	To make the learners understand the use of language in day to day life with reference to prose writings and also make them learn extensive reading skills by means of supplementary reading.
			CO2	To make the learners appreciate the poems of Indian as well as Arabic Poets.
			CO3	To make the learners use Arabic in work places by exposing them to write Agendas, Notices, Circulars and minutes.
			CO4	To demonstrate an understanding of writing skills
			CO5	To make hem write effective Resume and CVS.
3	3141C	Modern Pores, Poetry,	CO1	To acquaint students with the greatest speeches of the world.
			CO2	To make the learners aware of multiple ways of Greetings , Requests, Introductions, Directions, Conversational Skills etc

	History of Arabic Literature	CO3	To make the learners expose to the interviews of world famous personalities.
		CO4	To make them learn to participate in Debates, Role plays, Dialogue writing.
		CO5	To make them learn to describe situations, places so as to enable narrative skills.

### Department of History

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1431A	Ancient Indian History & Culture (from Indus valley civilization to 13th cen A.D.)	CO1	The student will be able to identify and define various kinds of sources and understand and how history books are shaped. Compare and contrast various stages of progress from IVC to Vedic age.
			CO2	To analyse the Jain, Buddhist and Vedic faiths. To increase the awareness and appreciation of Transition from territorial states to emergence of empires.
			CO3	To analyse the emergence of the Mauryan and Gupta empires during the classical age in India.
			CO4	To evaluate the key facets of ancient society, polity and culture in south India- the feudalism and the rise of technology and commerce.
			CO5	To critically examine the nature of monarchic rule and develop an comprehensive understanding of cultural evolution during ancient period. Visualize where places are in relation to one another through map pointing.
2	2431-B	Medieval Indian History & culture (1206 A.D. to 1764 A.D.)	CO1	To understand the socio economic and cultural conditions of medieval india.
			CO2	To describe the advent of Islam in india and study the traces of political and cultural expansion of Turks and Afghans
			CO3	To explain the administration and art and architecture of Vijayanaara rulers, Mughals and also to analyse the rise of marathas and the contribution of Shivaji
			CO4	To evaluate the establishment of the British rule in India and understand the dangerous consequences disunity at all levels.
			CO5	To analyze the emergence of composite culture in India.
3	3431-C	Modern Indian History and Culture (1764 to 1947 A.D.)	CO1	The student will be able to unearth the true nature of the British rule and its disastrous impact on Indian economy and Society
			CO2	To guage the disillusionment of people against the Company's rule even during the early 19 <sup>th</sup> Cen.
			CO3	To assess the causes and effects of Reformation movements and also inspire the public to overthrow the inequalities of the present day society.
			CO4	To understand the sacrificial saga of freedom struggle.
			CO5	To evaluate the undercurrent of communal politics that led to India's partition and identify the enemies of India's integrity and Sovereignty.
4	4431-D	History & Culture of Andhra(from	CO1	The student will be able to interpret social, political and cultural transformation from medieval to Modern Andhra
			CO2	To analyze socio, economic and political changes under

		1512 to 1956 A.D)		Qutubshahi rulers
			CO3	To understand change in certain aspect of society in Andhra and explain how the English East India Company became the most dominant power and outline the impact of colonial policies in Andhra
			CO4	To outline the issues related to caste, women, widow remarriage, Child marriage, social reforms and the laws and policies of colonial administration towards these issues.
			CO5	To take pride in the Non violence struggle for Indian independence and relate the importance of peace in every day life.
5	4432-D	History of Modern World (from 15 <sup>th</sup> century A.D to 1945 A.D)	CO 1	The student will be able to demonstrate advanced factual knowledge of world histories, politics, cultures.
			CO2	To evaluate the causes for the glorious revolution and American revolution and identify the background for the evolution of Human right movement.
			CO3	To understand the main events of the French revolution and its significance.
			CO4	To think how Russia's traditional monarchy was replaced with the world's first Communist state.
			CO5	To know the World wars affected the all over the world and the destruction they caused.
6	5432	History & Culture of Andhra Desa (From 12 <sup>th</sup> to 19 <sup>th</sup> Century A.D.)	CO1	Influence of. Geographical features on History, Sources — A brief survey of political history from satavahanas to Vijayanagara Period
			CO2	The Qutb Shahis — A brief survey of their political history — Society, Economy and Culture. The Asaf Jahis
			CO3	Andhra under Colonial Rule. Coming of European Merchant Companies Anglo French Rivalry in Andhra
			CO4	Early uprisings - Administration — Land Revenue Settlements — Agrarian Conditions
7	6431	History of Modern Europe (from 19 <sup>th</sup> Century to 1945 A.D.)	CO1	Industrial Revolution and the rise of Capitalism — Impact on Asia and Africa
			CO2	World between 1914 — 1945 — Rivalry among colonial powers — Imperialist Hegemony
			CO3	League of Nations — Fascism in Italy — Nazism in Germany — Militarism in Japan
			CO4	Causes and consequences of second World War — UNO.
8	6432	Cultural Tourism in Andhra Pradesh	CO1	Concepts of Tourism : Nature – Scope – Definition
			CO2	Types of Tourism : Heritage Tourism – Pilgrimage Tourism – Recreation Tourism
			CO3	History and Tourism – Heritage Sites – Definition – Ancient Monuments Preservation Act of 1904, Act of 1958 and Act of 1972
			CO4	Planning and Development of A.P. Tourism : APTDC – Aims & Objectives – Fairs & Festivals – Andhra Cuisine
			CO5	Modalities of Conducting Tourism : Field work – Visit to a site – Conduct of Research
9	6433	Popular Movements in	CO1	Social & Self Respect Movements : Social Conditions – Kandukuri Veeresalingam, Raghupathi Venkata Rathnam Naidu,

		Andhra Desa (1848 to 1956 A.D.)		Guruzada Apparao, Komarraju Venakta Laxmana Rao, New Literary Movements : Causes
			CO2	Freedom Movement in Andhra (1885 – 1920) : Contributory Factors – Vandemataram Movement
			CO3	Freedom Movement in Andhra (1920 – 1947) : Non – Cooperation Movement – Chirala Perala, Palanadu & Pandanadipadu Activities
			CO4	Movement for Separate Andhra State (1953) : Causes – Andhra Maha Sabha – Andhra Provincial Congress Committee
			CO5	Movement for formation of Andhra Pradesh (1956) : Visalandhra Mahasabha – Role of Communists
10	6434	Contemporary History of Andhra Pradesh (1956-2014)	CO1	Social – Economic Changes in Andhra Pradesh – River Project & Infrastructural Development
			CO2	Growth of Leftist Ideology – Marxist & Radical Literature – Naxalbarry Movement
			CO3	Dalit Movement – Understanding Untouchability – Education – Literature – Struggle for Indentity
			CO4	Early trends towards Bifurcation : Jai Telengana Movement (1969) – Mulki Rules
			CO5	Bifurcation of Andhra Pradesh : Power Politics – Economic Discontentment – Riparian Disputes

### Department of Economics

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1421-A	Micro Economic Analysis –I	CO1	Analysis of the economics behaviour of individuals, firmes and markets.
			CO2	Rigorous and comprehensive study of various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs.
			CO3	Deep study of the micro and macro theories of distribution, welfare economics, and general equilibrium in closed and open systems.
			CO4	The theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework in theory and applications as well.
			CO5	The students can understand the analysis of economic behaviour under uncertainty.
2	2421	Micro Economics Analysis-II.	CO1	Analysis of the economics behaviour of individuals, firmes and markets.
			CO2	Rigorous and comprehensive study of various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets
			CO3	Deep study of the micro and macro theories of distribution, welfare economics, and general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty.

			CO4	Equilibrium of firm in modern non-profit maximizing framework in theory and applications as well.
			CO5	To make student aware of the basic theoretical framework underlying the field of macroeconomics.
3	3421	Macro Economic Analysis-I	CO1	Analysis of the significant role of 'Money' in the economy.
			CO2	Providing essential and thorough knowledge to the economics students relating to the theoretical aspects of money.
			CO3	Knowledge of various approaches towards evolution of money, demand for money, supply of money, and rate of interest, inflation, agencies which creates and supplies money and operates monetary policy.
			CO4	Understanding the Keynesian and post-Keynesian economics, which is a most essential part of the monetary economics.
4	4421	Macro Economics Analysis-II	CO1	Analysis of the significant role of 'Money' in the economy.
			CO2	Providing essential and thorough knowledge to the economics students relating to the theoretical aspects of money.
			CO3	Knowledge of various approaches towards evolution of money, demand for money, supply of money, and rate of interest, inflation, agencies which creates and supplies money and operates monetary policy.
			CO4	Understanding the Keynesian and post-Keynesian economics, which is a most essential part of the monetary economics.
			CO5	It helps students to study the aggregates and to provide overall idea about national economic policies and its implications.
5	5421	Indian Economy	CO1	Understand the economy and the measurement of various economic variables
			CO2	Explain the key concepts of the Indian economy
			CO3	Understand the Indian Economy better and gain ideas to solve the problems faced by the economy
			CO4	Understand the role of the Indian Economy the global context and how different factors have affected this Process
			CO5	It will help in developing the conceptual framework of govt policies and programmes It will acquaint with latest data and will enhance analytical skills will be able to understand the landscape of Indian economy
6	5422	AP Economy	CO1	Understand the economy and the measurement of various economic variables.
			CO2	Explain the key concepts of the AP economy.
			CO3	Understand the AP Economy better and gain ideas to solve the problems faced by the economy.

			CO4	Understand the role of the AP Economy the global context and how different factors have affected this process.
			CO5	Student understand about Financial situations GSDP ,Small Scale industries and SEZs
7	6421	Public Finance	CO1	Students studying Public Economics will have the knowledge on Fiscal Matters.
			CO2	This course will help them to deal with the direct tax or GST effectively.
			CO3	Students get knowledge about the functions of modern governments, revenue for the governments and all other financial structures of a nation.
			CO4	Besides, this course will pave the way to succeed in their competitive exams.
			CO5	Students gain the knowledge about the Budget Components of Budget state and Union Budget.

### Department of Political Science

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1441-A	Introduction to political science	CO1	Acquire Basic Concepts of Political Science
			CO2	Understanding on modern Approaches to the study of Political Science
			CO3	Added the concept of Sovereignty.intrinsic to the study of Political Science
			CO4	Have solid theoretical understanding of Rights and its theories along with the basic aspects of certain political ideologies
			CO5	Apply the knowledge to observe the field level phenomena
2	2441-B	Basic organs of government	CO1	Understand the Origin and Evolution of the concept of Constitutionalism and classification of Constitutions
			CO2	This helps them to understand the Acquaint themselves with different theories of origin of State
			CO3	Understand and analyses organs of Governments
			CO4	Analyze various forms of Governments
			CO5	Along with a deep insight into the various agents involved in the political process
3	3441	Indian government and politics	CO1	Acquire knowledge about the historical background of Constitutional development in India appreciate philosophical foundations and salient features of the Indian Constitution
			CO2	To understand Citizenship-Citizenship Act-1955- Provisions- Citizenship Amendment Act (CAA)of the Indian Constitution
			CO3	Understand the composition of and functioning of Union

				Government as well as State Government and
			CO4	Analyze the relationship between State and individual in terms of Fundamental Rights and Directive Principles of State Policy.
			C05	Acquaint themselves with the judicial system of the country and its emerging trends such as judicial reforms.
4	4441	Indian political process	CO1	Acquaint with Approaches to Study the Political Processes in India
			CO2	Understand Social Structure and Democratic Process Analyze the relationship between Religion and Politics
			CO3	Know the constitutional base and functioning of local governments with special emphasis on 73rd & 74th Constitutional Amendment Acts
			C04	Comprehend the Party and Electoral Processes in India
			C05	Describing the Marxist Approach to politics. Paper IV Indian Understand the Determinants of Voting Behaviour
5	5441	Indian Ancient Indian Political Thought	CO1	Understand the Traditions Of Know about Early Nationalism Understand Renaissance
			CO2	Renaissance Thought Learn about Religious Nationalism Political Thought
			CO3	Know Classical Indian Political Thought
			CO4	To understand Religious Nationalism
			CO5	Comprehend Democratic Egalitarianism Democratic Egalitarianism
6	5442	Paper VI Western Political Thought	CO1	To acquaint with Classical Western Political Thought
			CO2	Understand Early Medieval to the Beginning of Modern thought
			CO3	Early Medieval to the Beginning of Modern Thought Distinguish between Liberal thought
			CO4	Know Classical Western Political Thought
			CO5	Critical analysis Philosophical Idealism Democratic Thought
7	6441	Local Self Government in Andhra Pradesh	CO1	Understand the Evolution of Local Self-Government in India
			CO2	Aware of the Historical Importance of Constitutional Amendments
			CO3	Know the Structure and functions of Panchayati Raj in Andhra Pradesh
			CO4	Analyze Structure and Functions of Urban local bodies in Andhra Pradesh
			CO5	Understand Role of Leadership and Emerging Challenges
8	6442	International Relations	CO1	Comprehend the Basic Concepts of International Relations
			CO2	Know the Phases of International Relations Understand the Phases of International Relations after 1945 International Know the International Organizations Relations
			CO3	understand Problems of the Third World
			CO4	Phases of International Relations (1945 onwards)
			CO5	International Organization like UNO
9	6443	Indian Foreign of	CO1	Understand the Evolution of Indian Foreign of Policy
			CO2	learn objectives, Structure and functions of NonAlignment and

		Policy		UNO
			CO3	Study India's Relation with USA and China
			CO4	Understanding the India and her Neighbors Indian Foreign
			CO5	learn objectives, Structure and functions of Policy SAARC
10	6444	Contemporary Global issues	CO1	Understand the Concept of Globalization
			CO2	Understand the Anchors of Global Political Economy Know about Nation State and Globalization
			CO3	Comprehend Contemporary Global issues
			CO4	Contemporary Acquire knowledge and consequences
			CO5	steps to Global Issues eradicate International Terrorism
			CO3	Provide an overview on financial resources and constitutional provisions.
			CO4	Analyze the issues, problems and conflicts in Local Administration.
			CO5	Develop communication skills to interact with the elected members and officials



## Department of Rural Development

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	3471	Indian Rural Economic scene	CO1	The students have in-depth knowledge on rural employment generation schemes, Govt. poverty alleviation and employment-generation scheme, rural development in annual budget, Price index; Rules, regulation, impact of WTO in Indian and rural economic
			CO2	To gain the strategies to form Self Help Group for empowerment generation
			CO3	The students develop coping strategy in village situation. They have a clear idea about the rural problems and prepare action plan based on available local resources
			CO4	The students know about the infrastructure and Information and communication technology in rural areas
			CO5	The students understand the Natural recourses in rural areas and how can rural people can uses the recourses
2	4471	Indian Rural social Scene	CO1	Students should know about the different evil practices that are strongly existed in the society.
			CO2	They should be acquainted with the diverse theory of criminology including Retributive theory, Psycho-analytical' theory, Tannenbaum's theory, Merton's Theory etc
			CO3	students will know to find out their results against each objectives as approved by the group of external examiners
			CO4	Understand the role of the India rural the global context and how different livelihood have affected this process
			CO5	Students should understand the social Legislation where as women, children's SC and ST and backward classes.
3	5471	Rural Development planning and management	CO1	The students will learn basic principles of Management and their applications in agriculture sector.
			CO2	To acquaint the students with basic principles of management and their application in Rural sector.
			CO3	The students will get inspiration and motivation to adopt entrepreneurship as a career through entrepreneurship development programmes.
			CO4	The planning for the sustainable Rural Development in possible with the understanding of Rural Development.
			CO5	Student should understand the common property rights to know the rights on public properties
4	5472	Rural Markets	CO1	The students will get exposure to rural marketing and its deferent models and strategies.

			CO2	The students will understand the consumption pattern and behaviour of rural consumers.
			CO3	To provide hand hold exposure on agriculture -allied sectors like Dairy, Apiculture, Fishery, Poultry science etc.
			CO4	Student should understand about Forest Recourse use in India: Challengers for sustainability concept and Models of Social.
			CO5	Students will understand and gain the knowledge and discuss about Common Property Resource and Livelihood of Poor people
5	6471	Natural Resources Management	CO1	The students will understand various natural resources and their importance in rural development.
			CO2	The students will get exposure to various challenges and problems with regard to availability and use of natural resources.
			CO3	Should know the different source of Natural resources
			CO4	Will be able to prepared the watershed development plan on the basis of land capability classification
			CO5	The Students will understand significant role of natural resources
6	6472	Descriptive Economics Statics	CO1	To understand the practical relationship between two or more variables and to estimate and forecast the values of some strategic variables and the growth rate of economic and other social variables
			CO2	Providing the training to use the techniques of mathematical and statistical analysis, which are commonly applied to understand and analyze economic problems.
			CO3	Students understand the Classification, types of Classification, Tabulation, Types of Tabulation, Preparation of Frequency Distribution Table.
			CO4	Students understand how to draw the Diagrammatic representation of data, Importance of Diagrams- types of Diagrams Simple Bar Diagram Pie Diagram
			CO5	Will be able to prepared the Graphical representation of data, Histogram ,Frequency Polygon ,Frequency Curves and Ogives
7	6473	Statistical Method	CO1	To know the average value of any variable and to know the average deviation from the mean value of given variable
			CO2	To understand the concept of probability and to understand the probable occurrence of any given events satisfying a particular law of probability.
			CO3	To carry over the testing of hypothesis procedure to find the validity and the representative character of a particular sample derived from a given population.
			CO4	To understand the average movement in the values of a given group of variables over a given time period. Helps in identifying the over all movement in the whole sale price index cost of living index and the movement in the changes in the human development values.
			CO5	To understand the practical relationship between two or more variables and to estimate and forecast the values of some strategic variables and the growth rate of economic and other

				social variables
8	6474	Statistical Techniques	CO1	Providing the training to use the techniques of mathematical and statistical analysis, which are commonly applied to understand and analyze economic problems.
			CO 2	Understanding economics with the help of quantities techniques. Hence, in this paper a student will be initiated into various economic concepts, which are amenable to mathematical treatment.
			CO3	Students should gain the knowledge about Regression Analysis- Estimation of Regression lines
			CO4	Student should understand how to Analysis of Time series Determination of Trend, Semi average, Moving average methods and Straight line Method
			CO5	Index Numbers – Methods of Construction of Laspeyres's, Passchies and Fisher's Ideal Index Number – Time reversal Test and Factor reversal Test.

### Department of Psychology

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	5451	Child and Adolescent psychology	CO1	Nature of human development is the scientific study of changes that occur in human beings over the course of their life span.
			CO2	Stages of development
			CO3	Babyhood is the true foundation age. At this time ,many behavior patterns, attitudes and emotional expressions are established
			CO4	Early childhood, defined as the period from birth to eight years old ,is a time of remarkable growth with brain development at its peak
			CO5	Illness is highly susceptible in early age. Children are more prone to respiratory illness and wide sores infectious diseases.
2	5452	Abnormal Psychology	CO1	Abnormal Psychology is the branch of psychology that studies unusual patterns of behavior, emotion and thought
			CO2	Abnormal Psychology study peoples emotional, cognitive and behavioral problems
			CO3	Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes.
			CO4	The somato form disorders are a group of psychological disorders in which a patient experiences physical symptoms
			CO5	Amnesia is a form of memory loss. Some people with amnesia have difficulty forming new memories.

### Department of Commerce

#### B.Com (CA, GEN & DM)

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
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1	1501-A	Fundamentals of accounting - I	CO1	Acquire conceptual knowledge of basics of accounting.
			CO2	Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.
			CO3	Describe the role of accounting information and its limitations.
			CO4	Equip with the knowledge of accounting process and preparation of final accounts of sole traders.
			CO5	Identify and analyze the reasons for the difference between cash book and pass book balances
2	1502-A	Business Organization And Management	CO1	Understand the scope of Business, and its importance.
			CO2	Evaluate supply and Demand Analysis
			CO3	Identify various vital documents of a company
			CO4	Importance of Administration & Management.
			CO5	Interpret the Principles of Management in traditional & modern scientific ways.
3	1503-A	Business Environment	CO1	Understand the concept of a business environment.
			CO2	Explain the economic trends and its effect on Government policies.
			CO3	Critically examine the recent developments in economic and business policies of the Government.
			CO4	Understand the various aspects of Political and legal environment.
			CO5	Understand the role of various organizations in the development of a business globally.
4	1191-D	Sdc Insurance	CO1	Understand the field level structure and functioning of insurance sector and its role in protecting the risks
			CO2	Comprehend pertaining skills and their application for promoting insurance coverage
			CO3	Prepare better for the Insurance Agent examination conducted by IRDA
			CO4	Plan 'promoting insurance coverage practice' as one of the career options.
5	2511-B	Financial Accounting II	CO1	Appreciate the need for negotiable instruments and procedure of accounting for them
			CO2	Evaluate the concept of Consignment and learn its accounting treatment
			CO3	Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under
			CO4	Determine the ascertainment of profit under Single Entry system.
			CO5	Understand the meaning and features of Non-Profit Organizations
6	2521-B	Business	CO1	Understand economics in terms of business

		Economics	C02	Evaluate supply and demand analysis
			C03	Interpret the factors affecting firm such as production , costs and revenue
			C04	Analyze the performance of firms under different market structures.
			C05	Understand the various components of National Income and the problems in measuring National Income.
7	2531	Banking Theory And Practice	C01	Understand the basic concepts of banks and functions of commercial banks.
			C02	Demonstrate an awareness of law and practice in a banking context and Engage in critical analysis of the practice of banking law.
			C03	Organize information as it relates to the regulation of banking products and services.
			C04	Critically examine the current scenario of the Indian Banking system.
			C05	Formulate the procedure for better service to the customers from various banking innovations.
8	2169	Advertising	C01	Understand the field of Advertising
			C02	Comprehend opportunities and challenges in Advertising sector
			C03	Prepare a primary advertising model
			C04	Understand applying of related skills
			C05	Examine the scope for making advertising a future career
9	3511-C	Advanced Accounting	C01	To equip with the knowledge of section 8 provisions of Companies Act, 2013 and the accounting statements maintained by the Not Profit Organizations.
			C02	To comprehend the accounting statements maintained under the Single Entry System.
			C03	To equip with the meaning and provisions of Hire Purchase and to understand the accounts to be maintained by the hire purchaser and the hire vendor.
			C04	To learn the accounting procedure at the time of admission of a partner into a partnership firm.
			C05	To understand the accounting procedure at the time of retirement or death of a partner in a partnership firm.
10	3501-C	Business Statistics	C01	Understand the importance of Statistics in real life
			C02	Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques.
			C03	Build and assess data-based models.
			C04	Learn and apply statistical tools in day life.
			C05	Create quantitative models to solve real world problems in appropriate contexts.
11	3521-C	Marketing	C01	Understand the basic concepts of Marketing and the environment affecting the marketing activities.
			C02	Comprehend the bases for market segmentation and the buying decision process.

			C03	Identify the stages of a product.
			C04	Analyze the factors influencing the determination of price for a product.
			C05	Recognize the distribution channels and to understand the concept of Online marketing.
12	3169-C	Online Business	C01	Understand the online business and its advantages and disadvantages.
			C02	Recognize new channels of marketing, their scope and steps involved
			C03	Analyze the procurement, payment process, security and shipping in online business
			C04	Create new marketing tools for online business
			C05	Define search engine, payment gateways and SEO techniques.
13	4501-D	Corporate Accounting	C01	To impart the knowledge of concept of Corporate Accounting process
			C02	To know about the types of shares and issue of share capital and issue , redemption process of Debentures
			C03	Apply the New Companies Act provisions regarding Company accounts
			C04	Evaluate the different ways for a company to raise finances from public
			C05	Understand Profits prior to incorporation of a Company.
14	4502-D	Cost And Management Accounting	C01	Understand the elements of cost and differentiate between Cost accounting and Management accounting.
			C02	Understand the techniques to be followed to control material and labor cost.
			C03	Recognize the differences between Batch Costing and Job Costing.
			C04	Analyze and interpret the financial statements.
			C05	Comprehend the concept of marginal costing.
15	4521-D	Income Tax	C01	Apply the conceptual and legal knowledge about Income Tax provisions.
			C02	Computation of Income from Salary and understand the provisions regarding various allowances and perquisites included in the salary.
			C03	Understand the provisions in computation of Income from House property and Profits and gains from business or profession.
			C04	Comprehend the procedure for computation of Capital Gains and analyze the incomes from other sources.
			C05	Identify various deductions under section u/s80 C to 80 U and understand the procedure for computation of Total Income of an assessee.
16	4522-D	Business Laws	C01	Demonstrate, understand and communicate all the Legal Terminology of Business and the development of Business Law in India.
			C02	Outline the essentials of a valid Offer, Acceptance and Consideration.

			C03	Recognize the personas competent to a contract and the rules relating to Wagering Agreements, Contingent contracts and classify different modes of Discharge
			C04	Acquire knowledge about Sale of Goods Act 1930 and the Consumer Protection Act, 2019.
			C05	Create awareness on the cyber law and safety mechanism.
17	4541-D	Auditing	C01	Understand the importance of Auditing in an Organization and to recognize the role of Auditor in checking frauds.
			C02	Analyze the basis of classification of Audit.
			C03	Describe the steps to be taken for an audit.
			C04	Understand the objectives of vouching and the differences between Auditing and Investigation.
			C05	Comprehend the provisions of the Companies Act, 2013 in preparing an audit report.
18	4542-D	Goods And Service Tax	C01	To learn basic concepts of Goods and Service Tax
			C02	Understand the comprehensive structure of GST in India.
			C03	Equip with the knowledge of various aspects of GST such as composition scheme, reverse charge mechanism etc.
			C04	Able to understand the concept of Input Tax Credit and its utilization.
			C05	Create awareness on the filing of returns and various records to be maintained under GST.
19	4551-D	Fundamentals Of Marketing And Introduction To Digital Marketing	C01	Helps to identify core concepts of marketing and the role of marketing in society.
			C02	Ability to collect processes and analyze consumer and market data to make informed decisions.
			C03	Helps to understand pricing decisions.
			C04	Helps to know the different channels of marketing and also to understand conflict management.
			C05	Focuses on the importance of digital marketing and its applications.
20	4552-D	E-Customer Relationship	C01	To equip learners with a sound foundation of e-CRM concepts.
			C02	To understand the application and framework of e-CRM.
			C03	To analyze the benefits of e-CRM to companies and customers.
			C04	To understand the components of e-CRM.
			C05	To understand the implementation of e-CRM best practices.
21	4541	Accounting For Service Organizations	C01	Students will able to understand to do accounts in service Organizations
			C02	Understanding Electricity, Bank & Insurance Accounts
			C03	Understanding valuation of Income from Profession

			C04	Students are able to understand differences between double entry and double accounting system
22	5501	Cost Accounting	C01	Imbibe conceptual knowledge of cost accounting.
			C02	Select the costs according to their impact on business.
			C03	Differentiate methods of schedule costs per unit of production and calculating stock consumption.
			C04	Identify the specifics of different costing methods and interpret the impact of the selected costs.
			C05	Demonstrate mastery of costing systems, cost management systems, budgeting systems.
23	5502	Auditing	C01	Understanding the Auditing as per AASB.
			C02	Explain the qualification, disqualification, rights and duties of an auditor.
			C03	Describe Audit programme, Audit Note Book, Audit Working notes and Audit Markings.
			C04	Define Internal audit and internal control, its meaning and objectives, types of vouchers.
			C05	Describe the meaning and role of Audit Committee with reference to Audit Reports.
24	5503	Commercial Geography	C01	Understanding of the Earth -Soils -Environment - Water Resources - Mines - Rivers etc.
			C02	To impart knowledge Major Crops and Food and Non- Food Crops - Importance of Agriculture.
			C03	To know about the Indian Forestry and Forest Rights Act, 2006.
			C04	India-Minerals and Mining - Renewable and non Renewable -Uses of Minerals
			C05	Water Resources - Rivers - Experiences of India and AndhraPradesh.
25	5533	E-Commerce	C01	Able to information technology and E-commerce CO2 can understand various multimedia applications
			C02	Would learn the various authentication security issues in E-commerce
			C03	Able various forms of the E-commerce applications and its usages and security issues
			C04	Would be able to understand computerized accounting
			C05	To impart knowledge of Payment gateways in E-Commerce Business
26	5504	Rural And Farm Credit	C01	To understand the objectives and significance of rural credit and classification of rural credit.
			C02	To identifying rural credit agencies for financing agriculture and rural development.
			C03	To describe the farm credit.
			C04	To explain sources of farm credit i.e., co-operative credit and lead bank schemes



			C05	To analyze the farm credit i.e., analysis of 3 R's and 3 C's.
27	5505	Central Banking	C01	Describe the evaluation and the functions of central bank and changes in central bank functions
			C02	Understand the constitution and governance and recent developments in RBI Act
			C03	Explain monetary control techniques and credit control measures under taken by RBI
			C04	Analyze inflation and price control measures initiated by RBI
			C05	Elucidate supervision and regulation of the banking system by RBI.
28	6501	Goods And Service Tax	C01	To learn basic concepts of Goods and Service Tax
			C02	Will gain knowledge of GST planning for Business
			C03	Will understand and equip by the filling tax returns
			C04	Will have some knowledge on establishments and taxes on them
			C05	It allows the students to apply various strategies in producing the products
29	6502	Marketing	C01	Students can identify the core concepts of rural and urban markets and take different marketing challenges and opportunities
			C02	Students can improvise their organization in micro and macro environment
			C03	Students can segment the products as per the market conditions
			C04	Helps students to identify various psychological consumer behavior for their produce products
			C05	It allows the students to apply various strategies in producing the products
30	6503	Management Accounting	C01	Acquire knowledge and techniques of Management Accounting
			C02	Prepare various analytical financial statements.
			C03	Understand the use of related financial information relevant to the various users
			C04	Identify the operational efficiency and managerial effectiveness.
			C05	Analyze the reasons for change in profitability and financial position of the firm.
31	6533	Tally Erp - 9	C01	To provide an overviews of various types of Accounting software
			C02	To give in-depth knowledge of Tally Accounting Software
			C03	To learn about data entry in the software
			C04	Generation of Reports and Tax Filing
			C05	Exporting and Saving of Reports
32	6504	Financial Services	C01	Differentiate activities of Banking and Non Banking companies
			C02	Understanding the scope and importance of Merchant Banks and services rendered by Merchant Banks.
			C03	Describe the procedure of leasing and Hire purchasing.
			C04	Identify the credit rating agencies and its purpose.

			C05	Understanding factors and for failing services rendered by financial institutions.
33	6505	Marketing Of Financial Services	C01	Make an informed judgment about whether or to what extent the financial market strategies, the condition of financial markets, and service elements.
			C02	How the people manage service and its quality and quantity consumer loyalty.
			C03	The learner can able to explain pricing and promotional strategies and how the firm can price their products in view of customer and new marketing techniques like B2B
			C04	It can able to understand distribution services cost and revenue management and its approaches, channels, designing and managing service processes.
			C05	Learners can understand the banking retail process, investment process, insurance services and its marketing practices.

### Department of Botany

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1321-A	Fundamentals of Microbes and Non-vascular Plants	CO1	Explain origin of life on the earth and diversity among viruses
			CO2	To explain and illustrate the diversity of prokaryotic organisms and can categorize them.
			CO3	Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles
			CO4	Analyze and ascertain the plant disease symptoms due to viruses, bacteria and fungi.
			CO5	Recall and explain the evolutionary trends among amphibians of plant kingdom for their shift to land habitat. Evaluate the ecological and economic value of microbes, thallophytes and bryophytes.
2	2321-B	Basics of Vascular plants and Phytogeography	CO1	Classify and compare Pteridophytes and Gymnosperms based on their morphology, anatomy, reproduction, life cycles and to evaluate the ecological, ethnic and economic value
			CO2	Justify evolutionary trends in tracheophytes to adapt for land habitat.
			CO3	Explain the process of fossilization and compare the characteristics of extinct and extant plants.
			CO4	Critically understand various taxonomical aids for identification of Angiosperms. Analyze the morphology of the most common Angiosperm plants of their localities and recognize their families.
			CO5	Locate different phytogeographical regions of the world and India and can analyze their floristic wealth.
3	3321	Plant Taxonomy and Embryology	CO1	Understand the different systems of classifications
			CO2	Able to explain the Bentham & Hooker's System of Classifications practically with plant examples.
			CO3	Able to explain the external morphology of plants
			CO4	Illustrate and interpret various aspects of embryology
			CO5	Understand the microsporogenesis, megasporogenesis, ovule

				structure and types and fertilization.
			CO6	Understand the formation & types of endosperm and embryo.
4	4321	Plant Physiology and Metabolism	CO1	Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.
			CO2	Evaluate the role of minerals in plant nutrition and their deficiency symptoms
			CO3	Interpret the role of enzymes in plant metabolism.
			CO4	Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.
			CO5	Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms
			CO6	Evaluate the physiological factors that regulate growth and development in plants.
				Examine the role of light on flowering and explain physiology of plants under stress conditions.
5	5321	Cell Biology, Genetics and Plant Breeding	CO1	Distinguish prokaryotic and eukaryotic cells and design the model of a cell. Explain the eukaryotic cell structure and its components
			CO2	Explain the structure of genetic material and the experimental proofs.
			CO3	Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
			CO4	Understand the application of principles and modern techniques in plant breeding.
			CO5	Explain the procedures of selection and hybridization for improvement of crops
6	5322	Plant Ecology & Phytogeography Learn about	CO1	Explain the branches of ecology and ecological factors
			CO2	Describe the concept of Eco system, productivity and biogeochemical cycles
			CO3	Explain the population and community ecology and the interaction of plants in a community.
			CO4	Understand the Phytogeographical regions of India and vegetation types of Andhra Pradesh.
			CO5	Understand the biodiversity concept, types and conservation methods of biodiversity.
7	6321	Botany-VII- Plant Tissue Culture and Bio-technological Applications	CO1	Understand the Plant Tissue Culture Research, Principles, Totipotency, Thallus Culture, Meristem Culture, Organ Culture, Differentiation and Dedifferentiation.
			CO2	Discuss about Cryo preservation, embryo culture, production of secondary metabolites, applications of Tissue Culture.
			CO3	Discuss about restriction endonuclease, cloning vectors, gene cloning.
			CO4	Discuss about methods of gene transfer and selection of transgenics
			CO5	Discuss about the applications of plant genetic engineering
8	6322	Botany-VIII-A- - Plant Diversity and Human Welfare	CO1	Create awareness about the plants & their Biodiversity
			CO2	Understand the biodiversity concept, types, threatening factors and conservation of biodiversity
			CO3	Explain about Environmental Impact Assessment (EIA) and solid & liquid waste management
			CO4	Understand the types of biodiversity conservation methods and endemism.
			CO5	Realize ecological importance of plants and discuss the role of plants in relation to Human Welfare.

9	6323	Botany- VIII-B- Ethnobotany and Medicinal Botany	CO1	Comprehensive Knowledge of various common plants, their use and medicinal values through primitive culture
			CO2	Understand the role of ethnobotany in modern medicine with special reference to some medicinal plants.
			CO3	Understand the concept of sharing of wealth concept with reference to medicinal plants, biopiracy, IPR and Traditional Botanical knowledge.
			CO4	Explain the conservation of endemic and endangered medicinal plants
			CO5	Able to describe the various traditional systems of medicine like Ayurveda, Siddha, Unani, Homeopathy
10	6324	Botany- VIII-C- Pharmacognosy and Phytochemistry	CO1	Classify drugs and drug evaluation methods
			CO2	Explain the primary and secondary metabolites
			CO3	Aware of sources of drugs and biosynthesis: (Phenols, Steroids, Alcohols), enzymes, proteins and amino acids etc.
			CO4	Understand the biosynthesis of drugs (Steroids, Alkaloids and volatile oils)
			CO5	Understand the sources of drugs and enzymes, proteins and amino acids as drugs.

### Department of Zoology

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1311-A	Animal diversity – biology of nonchordates	CO1	Describe general taxonomic rules on animal classification
			CO2	Classify Protozoa to Coelenterata with taxonomic keys
			CO3	Classify Phylum Platyhelminthes to Annelida phylum using examples from parasitic adaptation and vermin composting
			CO4	Describe Phylum Arthropoda to Mollusca using examples and importance of insects and Molluscs
			CO5	Describe Echinodermata to Hemichordata with suitable examples and larval stages in relation to the phylogeny
2	2331-B	Animal diversity – biology of chordates	CO1	Describe general taxonomic rules on animal classification of chordates
			CO2	Classify Protochordata to Mammalia with taxonomic keys
			CO3	Understand Mammals with specific structural adaptations
			CO4	Understand the significance of dentition and evolutionary significance
			CO5	Understand the origin and evolutionary relationship of different phyla from Prochordata to mammalia
3	3331	Cell biology, genetics, molecular biology and evolution	CO1	To understand the basic unit of the living organisms and to differentiate the organisms by their cell structure.
			CO2	Describe fine structure and function of plasma membrane and different cell organelles of eukaryotic cell.
			CO3	To understand the history of origin of branch of genetics, gain knowledge on heredity, interaction of genes, various types of inheritance patterns existing in animals

			CO4	Acquiring in-depth knowledge on various of aspects of genetics involved in sex determination, human karyotyping and mutations of chromosomes resulting in various disorders
			CO5	Understand the central dogma of molecular biology and flow of genetic information from DNA to proteins.
4	4331-D	Animal physiology, cellular metabolism and embryology	CO1	Understand the functions of important animal physiological systems including digestion, cardio-respiratory and renal systems.
			CO2	Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with a special knowledge of hormonal control of human reproduction.
			CO3	Describe the structure, classification and chemistry of biomolecules and enzymes responsible for sustenance of life in living organisms
			CO4	Develop broad understanding the basic metabolic activities pertaining to the catabolism and anabolism of various biomolecules
			CO5	Describe the key events in early embryonic development starting from the formation of gametes upto gastrulation and formation of primary germ layers.
5	4332-D	Immunology and animal biotechnology	CO1	To get knowledge of the organs of Immune system, types of immunity, cells and organs of immunity.
			CO2	To describe immunological response as to how it is triggered (antigens) and regulated (antibodies)
			CO3	Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering.
			CO4	Get familiar with the tools and techniques of animal biotechnology.
6	5332	Animal husbandry	CO1	Understand about the various stages in development of chicks and animals.
			CO2	Gain knowledge about various diseases in poultry and animal husbandry, their control measures.
			CO3	Can get knowledge in management of apoultry farm and a animal husbandry unit
7	6331	Immunology	CO1	Have an awareness of current research in the field and possible applications of their knowledge in Immunology
			CO2	Basic understanding on key components of the innate and adaptive immune responses and insight into which cell types and organs are involved in an immune response.
			CO3	Explain the Role of Antigens & Antibodies in Immunity & understand Significance of antigen antibody reactions
			CO4	Differentiate between different Hypersensitivity states
8	6332	Principles of aquaculture	CO1	Students can demonstrate the basic technical skills necessary for work in aquaculture and fisheries.
			CO2	can gain good knowledge on various types of fishes and fish culture systems.
			CO3	Have awareness in construction of fish pond and can start their own fish pond.
9	6333	Aquaculture management	CO1	Create local and global solutions to complex challenges in aquaculture and fisheries
			CO2	can gain good feeding techniques, and have knowledge on various feeding methods.

10	6334	Post harvest technology	CO1	Have knowledge of impact of aquaculture and fisheries on society, the economy and natural environment
			CO2	can have awareness on various fish preservation and marketing methods

### Department of Home Science

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1344	Basic Nutrition	CO1	Understanding the concepts of nutrition and food its relation to health.
			CO2	Acquiring knowledge about macro and micro nutrients and their functions.
			CO3	Knowing the consequences of deficiency of nutrients. Identification of signs and symptoms of different nutrient disorders.
			CO4	Understanding importance of non nutrients in human nutrition
			CO5	Understanding the concepts of nutrition and food and its relation to health.
2	1345	General Psychology	CO1	Understanding of various psychological processes underlying human behavior and its core concepts.
			CO2	Understanding of basic cognitive process of learning , memory and forgetting
			CO3	Grasp the importance of emotions, motivation, emotional intelligence in shaping personality
			CO4	Observing different types of personalities based on type theory
			CO5	Stimulate the student to think, introspect and work on to develop their Personality
3	1346	Fundamentals of Textiles	CO1	The importance of the textiles in human life and also the textile terminology and types of fibres.
			CO2	Use of Textile fibres in various fields
			CO3	Identification of different fibres like plant fibres, animal fibres based on properties.
			CO4	Gains knowledge on manufacturing of different textile fibers.
			CO5	Understands the method of Spinning and process of yarn construction.
4	2341	Introduction To Food Science	CO1	Learn about different plant foods, their selection, nutritive values, composition, and storage and processing.
			CO2	Learn about different animal foods, their selection, nutritive values, composition, and storage and processing.
			CO3	Understands application of different processing techniques in cookery.
			CO4	Understand the principles of food preservation and causes of spoilage

			CO5	Understand the causes of food spoilage and importance of hygiene and sanitation.
5	2342	Housing For Better Living	CO1	Understand the principles, orientation site and factor to be considered in planning a house.
			CO2	Planning of different rooms in a house. House plans for different income groups
			CO3	Awareness in designing space, practical considerations about water supply, electricity, plumbers and drainage facilities.
			CO4	Understanding about financial -bank schemes of state & central government.
			CO5	Get awareness of safety measures to be taken in home.
6	2346	Fundamentals Of Home Science Extension	CO1	Learn the meaning, scope, concept and importance of Home Science Extension.
			CO2	Understand the role Extension worker in community
			CO3	Understand the Principles, steps in Teaching and Learning process
			CO4	Learn the qualities of an Extension Worker
			CO5	Different Teaching Methods and Teaching Aids in Communication Process.
7	3341	Family & Community Nutrition	CO1	Understanding the nutritional problems and nutrition requirements of the community.
			CO2	Acquiring knowledge about RDA, food groups, steps in planning a diet.
			CO3	Planning of balanced diets according to RDA for different age groups
			CO4	Mastering the skills of assessing nutritional status –Anthropometry, biochemical, clinical examination and diet survey.
			CO5	Planning programs to combat nutritional problems in community.
8	3342	Principles Of Garment Construction	CO1	Explain the different sewing equipment used in garment construction.
			CO2	Understand the use of sewing machine and ways to stitch fabrics.
			CO3	Learn to identify the defects and to know the adjustments of sewing machine.
			CO4	To know the different body measurements to stitch a garment.
			CO5	Analyze the estimation of fabric for different garments.
9	3343	Child Development	CO1	Scientific knowledge about child-development, and Developmental tasks at various stages of child development.
			CO2	The childhood problems, special needs of challenged children and their management

			CO3	Understand the stages of pregnancy and birth process
			CO4	The developmental milestones and can identify developmental delays.
			CO5	Learn about parenting styles adopted by parents and impact on child's behavior.
10	4341	Therapeutic Nutrition	CO1	Understands the meaning, objectives and purpose of therapeutic nutrition.
			CO2	Understands about modification of normal diets to therapeutic diets.
			CO3	Planning and preparation of diets for Under and over nutrition
			CO4	Planning and preparation of diets for different diseases like Obesity, Cardiovascular, Renal, Diabetes mellitus etc
			CO5	Calculation of Nutrient Requirements and modification of the diets for complications in different disease conditions.
11	4342	Fabric Construction And Apparel Care	CO1	Concepts of Grain- fabric count , Thread count, balance, selvedge weft and warp etc
			CO2	Meaning of knitting, weaving and finishes in fabric construction
			CO3	Knowledge in selection of clothing.
			CO4	Learn the process of laundering to different fabrics like cotton, woolen, silk etc.
			CO5	Understand different methods of fabric construction
12	4343	Human Development And Family Dynamics	CO1	Factors essential for harmonious and wholesome family living
			CO2	Knowledge on pubertal changes, adolescence and appreciate value of marriage in Indian families
			CO3	Understand the need for planning and preparation of parenthood.
			CO4	Understand the importance of adjustments to strengthen marital and family relationships
			CO5	Problems of adolescence during each sub stage and coping up strategies.
13	4344	Nutritional Biochemistry	CO1	Understand the importance of biochemistry as the basis for nutrition.
			CO2	Understand chemistry of mJOR nutrients and physiologically important bimolecular.
			CO3	Learn about macro nutrients in terms of their composition, properties, classification, and metabolism
			CO4	Knowledge on enzymes and its role in nutrient metabolism
			CO5	Understand the interrelationship of Biochemistry, Nutrition and Health
14	4345	Family Resource Management	CO1	Identify the characteristics and classify resources.
			CO2	Describe the ways of maximizing satisfaction from the use of resources.
			CO3	Understand the Process of Management – Planning, supervising, organizing and evaluation.
			CO4	Knowing the motivating factors of Management
			CO5	Learn time, money and energy management



15	4346	Community Development	CO1	Understand the meaning and concepts of community development
			CO2	Get awareness about definitions, principles of community development.
			CO3	Gain knowledge about the role of leader, leadership styles, types and methods.
			CO4	Understand the elements of diffusion, adoption and participatory rural appraisal techniques.
			CO5	Importance of Programme Planning in organizing community development programmes
16	5341	Family Dynamics	CO1	Learn about importance of family and its types
			CO2	Understands the importance of stages of family life cycle
			CO3	Learn about problem and adjustments' in marriage, sex, finance and in laws in family life
			CO4	Understand the importance functions, factors to be considered in different types of marriage.
			CO5	Understanding of legal aspects of marriage and family
17	5342	Life Span Development	CO1	Understanding basic concepts, stages of human life
			CO2	Learn about different areas of development from infancy to adolescence.
			CO3	Understand the importance, characteristics, Identity development and problems of Adolescence.
			CO4	Comprehend the role of Family, School and Peer on overall development of children
			CO5	Learn about parenting style and its impact on personality development of child
18	5343	Textile Finishes	CO1	Develop knowledge about various finishes.
			CO2	Develop knowledge and skill in finishing of fabrics in Dyeing and Printing.
			CO3	Gain knowledge of Traditional Textiles of India and Indian embroidery
			CO4	Understand about selection of clothing for different age groups
			CO5	Learn principles of laundering, reagents, stain removal and dry cleaning.
19	5344	Consumer Behaviour And Economics	CO1	Gain knowledge on concepts of human wants and standard of living.
			CO2	Get awareness on sources, types, functions, supplementing its family income
			CO3	Learn about money management
			CO4	Learn about time and energy management
			CO5	Student will learn the importance, types of savings and investment

20	5345	Family And Community Nutrition	CO1	understand the importance and planning of balanced diet for family and community
			CO2	Learn about nutritional requirement during pregnancy and lactation
			CO3	Gain knowledge about nutritional requirement during childhood, adolescence and old age.
			CO4	Learn about methods of nutritional assessment
			CO5	Understand the role of national and international organization in developing nutritional status of the community
21	5346	Home Science Extension	CO1	To understand the concept of extension and communication its relevance for self & national development.
			CO2	Learn the steps and principles of Extension teaching, formal and informal education.
			CO3	To gain knowledge about classification of various teaching methods
			CO4	Understand factors affecting selection and use of different Extension teaching methods
			CO5	Will gain concept, elements and functions Principles and barriers of communication.
22	6341	Therapeutic Nutrition	CO1	Understand principles of therapeutic nutrition, and special feeding method
			CO2	Learn the nutritional requirement and intervention in under and over nutrition
			CO3	Understand the etiology, clinical features and dietary management in common disorders
			CO4	Understand the etiology, clinical features and dietary management chronic diseases like GI, CVD, Kidney and liver etc.
			CO5	Understand the role and responsibilities of dietitian and significance of dietary counseling
23	6342	Fashion Design And Merchandise	CO1	To get awareness on Fashion terminology, Factors influencing fashion, Fashion cycles and Fashion adoption theories
			CO2	Understand the principles and elements of design and croqui.
			CO3	Learn role and responsibility of the merchandiser.
			CO4	Understand the Principles and Factors influencing merchandising practices are learned
			CO5	Understand the importance of merits and demerits of readymade clothing, care and storage of clothes.
24	6343	Entrepreneurship Management	CO1	Learn the importance characteristics, role and types of entrepreneurship.
			CO2	Learn about stages of entrepreneurship development
			CO3	Learn about idea generation and opportunities Assessment
			CO4	Understand the steps in setting up a new enterprise
			CO5	Learn the expertise in preparing project proposal
25	6344	A Early Childhood	CO1	Enlighten students about need, importance and objectives of early childhood education

		Education	CO2	Learn about various types of preschools- Nursery, Kindergarten and need and requirement for establishing preschool
			CO3	Learn about types of curriculum
			CO4	Develop skills in planning theme based curriculum planning for preschool.
			CO5	Understand about play way method and importance of home school relation in child's development
26	6345	Sociology	CO1	Gain the concept of sociology its importance with other social sciences, society and culture
			CO2	Understanding the types, agents, agencies and stages of socialization
			CO3	Learn about classification, characteristics of different social groups
			CO4	Understanding different features, characteristics of village and urban community
			CO5	Get awareness about problems of women in modern India
27	6346	Community Development	CO1	Get awareness about definitions, principles of community development.
			CO2	Gain knowledge about the role of leader, leadership styles, types and methods.
			CO3	Understand the elements of diffusion, adoption and participatory rural appraisal techniques.
			CO4	Importance of Programme Planning in organizing community development programmes
			CO5	Get awareness about the developmental programmes in India.

### Department of Bio-Chemistry

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1301	Cell biology, Carbohydrates, Lipids and Proteins	CO1	Comprehensive knowledge of Cell biology
			CO2	understand water role in biological processes and measurement of PH
			CO2	Knowledge on carbohydrates Classification , Biological Importance of carbohydrates
			CO3	Knowledge on Lipids Classification , Biological Importance of Lipids
			CO4	Knowledge on Amino acids, Classification , Peptides, Biologically important peptides
			CO5	Knowledge on Proteins, Classification and Biological Importance of proteins
2	2301	Nucleic acids and	CO1	Knowledge on Structure of Nucleic acids, Types of DNA, RNA
			CO2	Define and classify Structures of porphyrins

		Biochemical Techniques	CO3	Understand principles and applications of centrifugation, chromatography techniques like Paper, Thin layer, Gel filtration, Ion exchange and Affinity. Electrophoresis
			CO4	Understand the principles and application Colorimetry and Spectro photometry, Tracer techniques
			CO5	Describe outlines of Intermediary metabolism, methods of investigation
3	3301	Enzymology and Bioenergetics	CO1	Understand Classification of Enzymes and Structure
			CO2	Understand Influence of Physical factors and Inhibitors on Enzyme activity
			CO3	Understand Outline of mechanism of enzyme action, Regulation of enzyme activity
			CO4	Understand Bioenergetics: Thermodynamic principles
			CO5	Understand Biological Oxidations in Mitochondria
4	4301	Intermediary Metabolism	CO1	Understand the Concept of anabolism and catabolism, Carbohydrate Metabolism
			CO2	Understand the Concept of Lipid Metabolism
			CO3	Understand the Concept of Amino acid Metabolism
			CO4	Understand the Concept of Nitrogen cycle, Non-biological and biological nitrogen fixation
			CO5	Understand the Concept of Metabolism of Nucleic acid and heme
5	5301	Physiology, Clinical Biochemistry and Immunology	CO1	Understand and analyze the concepts Digestion and absorption of carbohydrates, lipids and proteins. Composition of blood
			CO2	Understand Endocrinology- organization of endocrine system. Classification of hormones
			CO3	Understand the Concept of Nutritional Biochemistry
			CO4	Understand the Concept of Clinical Biochemistry
			CO5	Understand the concepts of Innate and Acquired Immunity, Haptens and monoclonal antibodies
6	5302	Basic Microbiology	CO1	Understand the concepts of History and Development of Microbiology
			CO2	Able to differentiate between prokaryotic and eukaryotic cells and explain the characteristics of bacteria, virus, fungi, protozoa, algae
			CO3	Understand the viruses Poxvirus and Poliovirus. Bacterial Diseases- Cholera and Typhoid Protozoan Diseases
			CO4	Understand and analyze the concepts phycology; General characteristics of algae
			CO5	Understand and analyze the concepts General characteristics of fungi and Economic Importance of Fungi
7	6301	Microbiology and Molecular Biology	CO1	Comprehensive knowledge of Micro biology
			CO2	Understand and analyze the concepts of DNA replication and Enzymology
			CO3	Understand and describe the process of Protein synthesis and regulation of Prokaryotic gene expression
			CO4	Explain Gene regulation through Operon concept, and regulatory elements

			CO5	Understand the concepts of fermentation technology, Applied Biochemistry
8	6302	Hematology	CO1	Understand the concepts Laboratory Preparation in Hematology
			CO2	Understand the concepts Hemoglobin synthesis. Various hemoglobin's. Haemopoietic system of the body. Blood cell counts
			CO3	Understand the concepts Homeostasis and Hematological Diseases
			CO4	Understand the concepts Automation in Hematology
			CO5	Understand the concepts Immuno haematology and Blood banking
9	6303	Clinical Microbiology	CO1	Understand the concepts Clinical Microbiology
			CO2	Understand the concepts Clinical Bacteriology Laboratory & Staining methods
			CO3	Understand the concepts Culturing of Microorganisms and Identification of Bacteria
			CO4	Understand the concepts Clinical Mycology and Virology
			CO5	Understand the concepts Diagnostic Serology
10	6304	Biochemical Correlations in Diseases	CO1	Understand the concepts Inborn errors of metabolism
			CO2	Understand the concepts Nutritional Deficiency and Life style diseases
			CO3	Understand the concepts Hormonal Imbalances and Autoimmune diseases
			CO4	Understand the concepts Classification of infectious agents
			CO5	Understand the concepts Infectious diseases

### Department of Bio-Technology

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1311-A	Biomolecules, Bioenergetics, Biostatistics, Analytical techniques	CO1	To learn about the chemistry and structure of biomolecules
			CO2	Understand the energy producing pathways of glycolysis, krebs cycle, oxidative phosphorylation, and fatty acid oxidation
			CO3	Study statistical reasoning, probability, random variables, proportions, means and regressions
			CO4	Apply the knowledge of chromatography to separate constituents from a complex mixture
			CO5	Learn and compare qualitative and quantitative analysis methods
2	2311-B	Microbiology, Cell biology,	CO1	Apply the knowledge to understand the microbial physiology and to identify the microorganisms

		Molecular Biology	CO2	Understand the basic components of prokaryotic and eukaryotic cells
			CO3	Understand how the cellular components are used to generate and utilize energy in cells
			CO4	Understand and analyze the concepts of DNA replication and enzymology
			CO5	Understand and describe the process of Protein synthesis and regulation of Prokaryotic gene expression
3	3311-C	Immunology, rDNA Technology and Bioinformatics	CO1	Interpret the concepts of Immunology and will be able to explain Immune system
			CO2	Get insight in primary and secondary organs of Immune system
			CO3	Understand the steps involved in recombinant DNA technology
			CO4	Understand the biostatistical analysis of biological experiments
			CO5	To understand about the data retrieval tools and its utilization
4	4311-D	Plant and Animal Biotechnology	CO1	Physio- chemical conditions for propagation of plant cells and tissues; Protoplast isolation, fusion, cultivation, cybridization.
			CO2	Direct gene transfer methods, Invitro fertilization – Ovary and ovule culture, clonal propagation, somatic embryogenesis. Invitro production of secondary metabolites
			CO3	Role of plant Tissue culture in Indian Agriculture, Production of Transgenic plants
			CO4	Understand principles of various plant and animal cell tissue culture techniques
			CO5	Understand commercial applications of various cell and tissue culture based technologies
5	4312-D	Environmental and Industrial Biotechnology	CO1	Knowledge of the different types of biotechnological processes that exist in the field of environmental applications.
			CO2	Recognise the various global and regional environmental concerns due to natural causes and/or human activities, and the impact of these on various forms of life including native biodiversity.

			CO3	Awareness on environmental, its current status and sustainable development concerned with environment
			CO4	Give an account of design and operations of various bioreactors and downstream processes.
			CO5	Give an account of important microbial/ enzymatic industrial processes
6	5311	Molecular Biology	CO1	To explain the genome organisation in higher organisms
			CO2	Describe fundamental molecular principles of genetics
			CO3	Describe the basis of genetic mapping
			CO4	Understand how gene expression is regulated
			CO5	Understand and analyze the concepts of DNA replication and enzymology
7	5312	Recombinant DNA technology	CO1	Explain the basic principles and the techniques of Genetic Engineering
			CO2	Describe the applications of genetic engineering in various fields
			CO3	Acquire skills on techniques of construction of rDNA-Cloning vectors and isolation of gene of interest
			CO4	Debate on ethical issues concerned with genetic engineering
			CO5	To explain the construction of DNA and cDNA library and their applications
8	6311	Bioenergetics and Intermediate metabolism	CO1	Understand the differences between the anabolic and catabolic processes in metabolism
			CO2	Understand the energy producing pathways of glycolysis, krebs cycle, oxidative phosphorylation, and fatty acid oxidation
			CO3	Understand the redox and electron transfer reactions in biological systems
			CO4	Be able to describe how anabolic and catabolic processes are coupled to energetics from ATP hydrolysis
			CO5	Relate the concept of Entropy to the Laws of thermodynamics
9	6311	Plant and Animal Biotechnology	CO1	Physio- chemical conditions for propagation of plant cells and tissues; Protoplast isolation, fusion, cultivation, cybridization.
			CO2	Direct gene transfer methods, Invitro fertilization – Ovary and ovule culture, clonal propagation, somatic

				embryogenesis. Invitro production of secondary metabolites
			CO3	Role of plant Tissue culture in Indian Agriculture, Production of Transgenic plants
			CO4	Understand principles of various plant and animal cell tissue culture techniques
			CO5	Understand commercial applications of various cell and tissue culture based technologies
10	6312	Environmental and Industrial Biotechnology	CO1	Knowledge of the different types of biotechnological processes that exist in the field of environmental applications.
			CO2	Recognise the various global and regional environmental concerns due to natural causes and/or human activities, and the impact of these on various forms of life including native biodiversity.
			CO3	Awareness on environmental, its current status and sustainable development concerned with environment
			CO4	Give an account of design and operations of various bioreactors and downstream processes.
			CO5	Give an account of important microbial/ enzymatic industrial processes
11	6313	Bioinformatics, Biosatistics, Biosafety, Bioethics and IPR	CO1	Principles, Role of Institutional Biosafety committee
			CO2	Awareness about broader global ethical issues in healthcare
			CO3	Build up information resources, prepare database on biotechnology and to develop relevant information handling tools and techniques.
			CO4	Identify different types of Intellectual Properties (IPs), the right of ownership, scope of protection as well as the ways to create and to extract value from IP
			CO5	Study statistical reasoning, probability, random variables, proportions, means and regressions

### Department of Mathematics

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1221A	Differential Equations	CO1	Understand how to differentiate linear and non-linear Differential Equations
			CO2	understand some basic definitions, Find the envelopes and orthogonal trajectories of the family of different surfaces
			CO3	Understand How to solve the differential equations in rotational and solve it.
			CO4	Solve equations for p, x and y, explain Clairaut's equation



			CO5	To find solution of higher-order linear differential equations with variable coefficients, Solve the Cauchy-Euler equations
2	2221B	Three Dimensional Geometry	CO1	Understand geometrical terminology for angles, triangles, quadrilaterals and circles, measure angles using a protractor, use geometrical results to determine unknown angles
			CO2	Define parallel lines, Recognize and create parallel lines on graphs and with equations, define perpendicular lines, Recognize and create graphs and equations of perpendicular lines
			CO3	Understand the equation of the tangent plane and use the tangent plane as a local linear approximation to the surface
			CO4	Understand how to use cylinder and cone, Identify the shape of the surface of a cylinder and cone, Measure the surface area of a cylinder and a cone, finding volume of a cylinder and cone
3	3221	Abstract Algebra	CO1	Trained in the Basic concepts of Groups, Subgroups
			CO2	Apply the learned concepts to Normal subgroups, Homomorphism and Cyclic groups
			CO3	Attain knowledge in Rings, Subrings, Ideals
			CO4	Further learn Isomorphism and polynomial rings
4	4221	Real Analysis	CO1	Understand the concepts of limits, Continuity, Discontinuity, Uniform Continuity
			CO2	Analyze Derivatives and apply Mean value Theorems
			CO3	Understand the Concept of Sequences and Series and interpret series Tests
			CO4	Identify Riemann Integral functions
			CO5	Applicable for our professional, social and intellectual lives.
5	5221	Linear Algebra and Vector Calculus	CO1	Vector Spaces, Sub Spaces, Linear Combination, Dimension of Vector Space and Subspace. Definitions, Operations on vectors and scalars
			CO2	Rank and Nullity of Linear Transformations, Invertible Linear Transformations. Ordinary derivatives of vectors, Continuity, Gradient, divergence, Curl
			CO3	Sylvester's Law of Nullity and Cayley Hamilton Theorem. Vector Integration
			CO4	Inner Product Spaces.

6	5222	Ring Theory and Vector Calculus	CO1	Understand the concepts of vectors and scalars and will be able to perform the calculations on dot, cross and triple products
			CO2	Understands space curves and partial derivatives of vectors as well perform calculations on gradient, divergence and curl operators.
			CO3	Analyze line, surface and volume integrals and estimate the change of order of integration as well as the change of variable in double integration Green's Theorem in a plane, Gauss Divergence theorem, Stokes theorem & Applications of these theorems.
			CO4	Understand the application of Green's Gauss and Stokes theorems
7	6221	Numerical Analysis	CO1	Analyze and detect different form of errors and also will be able to solve Algebraic and Transcendental equations using different methods
			CO2	Interpolate the functions within the range using equally and unequally spaced points
			CO3	Upon completion of this module the student should: 1. Understand the Least Squares Method 2. Be able to curve fit data using several types of curves (straight line, second degree parabola, power curve, exponential curve) 3. Obtain numerical approximations to the first and second derivatives of certain functions 4. Calculate a definite integral using an appropriate numerical method
			CO4	To solve the solution of a linear system of equations using direct or iterative methods
			CO5	To solve the selected class of differential equations using Taylor, Picard's, Euler's, Runge-Kutta, Adams and Milne's
8	6222	Integral Transforms	CO1	Applications of Laplace transforms To Differential Equations
			CO2	Applications of Laplace transforms to Integral Equations
			CO3	Applications of Fourier Transforms
			CO4	Applications of Finite Fourier Transforms.
9	6223	Advanced Numerical Analysis	CO1	Curve Fitting
			CO2	Numerical Differentiation
			CO3	Numerical Integration
			CO4	Solution of simultaneous Linear system of Equations
			CO5	Numerical solution of ordinary differential equations

10	6224P	Project work	CO1	Communicate mathematics effectively.
			CO2	Demonstrate a computational ability in solving a wide array of mathematical problems
			CO3	Differentiate between valid and invalid mathematical reasoning
			CO4	Develop mathematical ideas from basic axioms, Utilize mathematics to solve Theoretical and applied problems
			CO5	Identify applications of mathematics In other disciplines and in society

### Department of Physics

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1231-A	Mechanics, Waves and oscillations	CO1	To understand Newton's laws of Motion, motion of a rocket, Rutherford scattering Euler equations, Gyroscope and Analysis of professional velocity of symmetric top
			CO2	Basic understanding of central force with Examples. Derivation of Kepler's laws
			CO3	To understand the concepts of inertial and non-inertial frames Lorentz transformations, length contraction & time dilation
			CO4	To understand simple and damped harmonic oscillator, Forced harmonic oscillator, Relaxation time and Quality factor. To understand coupled oscillator and wave equation of motion.
			CO5	To understand the transverse vibrations in a string. Laws of vibrations in a string. Harmonics & over tones. To understand different methods of production of ultrasonic's & applications
2	2231-B	Wave Optics	CO1	Basic understanding of conditions of interference of light, Interference in thin films, Lloyd's single mirror, Newton's rings, Michelson interferometer.
			CO2	To understand types of diffraction and differences between them, Fraunhofer diffraction at a single slit, Determination of wavelength of light using diffraction grating, Resolving power of grating, Fresnel's half period zones, comparison of zone plate with convex lens.
			CO3	Methods of production of plane polarized light, Brewster's law, Malus law, Nicol prism, Quarter and half wave plate, Laurent's half shade Polarimeter, Basic principle of LCDs

			CO4	To understand aberration & methods of minimizing aberration. Concepts of Coma, Astigmatism & Achromatism To understand different types of fibers & principle of fiber communication
			CO5	Basic principle of LASER, Applications of lasers. Basic principle of holography and its applications.
3	3231	Wave Optics	CO1	To understand aberration & methods of minimizing aberration. Concepts of Coma, Astigmatism & Achromatism
			CO2	To understand principle of superposition. Concept of interference, use of Newton's rings. Michelson interferometer.
			CO3	To understand the difference between Fresnel & Fraunhofer Diffraction. Concepts of half period zones
			CO4	Understanding polarization and different methods of conversion of unpolarized light into polarized light. Nicol prism & Double refraction
			CO5	Applications of lasers Basic principle of holography To understand different types of fibers & principle of fiber communication
4	4231	Thermodynamics & Radiation Physics	CO1	To understand concept of Thermodynamics and the kinetic theory of gases.
			CO2	To understand Carnot's engine & its efficiency. II law of Thermodynamics. Concepts of Entropy & use of T-S diagrams
			CO3	To understand the derivation of Maxwell's thermodynamical relations. Importance of specific heat of gases. Joule Kelvin effect
			CO4	To understand the concept of low temperature physics. Various experiments related to low temperature physics. To know Adiabatic demagnetization,
			CO5	To get the idea of various laws of quantum theory of radiation. Measurement of temperature of sun using pyrometers
5	5231	Electricity, Magnetism & Electronics	CO1	To understand Gauss' law in electrostatics and its application. Use of dielectrics. Importance of electric polarization.
			CO2	Application of Biot-Savart's Law & to understand Hall effect. Basic concept of Faraday's & Lenz's laws. Understanding of self & mutual inductance. Working of Transformer
			CO3	To understand the effect of AC current through pure resistance, capacitance & inductance & in combination. Importance of Q factor. To understand the fundamental Maxwell's equations & Poynting theorem.

			CO4	understanding of PN junction & zener diode&LED characteristics To understand CB, CE, CC configurations of a transistor. Determination of h parameters.
			CO5	To understand digital electronics concepts. Conversion of binary to decimal, hexa & octal systems & viceversa. Importance of Demorgan's theorem in digital electronics. Half &full adder circuits, construction.
6	5232	Modern Physics	CO1	To understand quantum numbers associated with vector atom model To know coupling schemes. Importance of Raman effect& its experimental setup. Applications of Raman effect
			CO2	To understand matter waves, De-Broglie's theory of matter waves. Heisenberg's uncertainty principle & experimental verification.
			CO3	To understand the postulates of quantum mechanics, Applications of Schrodinger wave equation in various cases
			CO4	To know Basic properties of nucleus. Understanding of liquid drop model & shell model. To get the idea of Alpha Beta decay & various theories. Neutrino hypothesis.
			CO5	To understand the basics of Nano materials & its classification Applications of nano materials To understand concept of superconductivity, types of superconductors & its applications.
7	6231	Renewable Energy	CO1	Basic knowledge of different forms of energy resources and its role in economy. Study of the effects of environmental degradation, global warming, nuclear power generation.
			CO2	To understand the energy consumption in various sectors To know the energy resources available in India Need of new and renewable energy sources
			CO3	To get the idea of energy conversion methods viz solar and wind energy
			CO4	To understand Tidal power generation techniques and wave energy technologies To understand hydrogen production methods& hydrogen safety & use of hydrogen as fuel
			CO5	Analysis of conversion of bio mass into fuels, biomass plants types and their design.
8	6232	Solar, Thermal, & photovoltaic aspects	CO1	Study the basics of solar radiations and solar intensity measurements.
			CO2	To understand the types of solar collectors like Flat plate collector and concentrating types & their efficiencies.
			CO3	To get the concepts of physics behind solar cell . Understand the solar cell fabrication, various types of cells.
			CO4	Arrangement of solar module and array. To understand the use of bypass and blocking diodes in solar modules.

			CO5	To understand the construction solar water heating systems their types. Passive & active space heating, solar thermal power generation. Applications of solar PV systems, its installation maintenance guidelines. PV market analysis.
9	6233	Wind, Hydro & Ocean energies	CO1	Introductory knowledge of wind energy generation meteorology of wind. Types and classification of wind energy convertors.
			CO2	Understanding the construction and working of wind turbine and its characteristics.
			CO3	Understand the principal of wind energy generation and environmental impacts of wind forms.
			CO4	To understand micro, mini & hydro power systems Getting the concept of site selection & design for power stations.
			CO5	To understand the principle of OCET systems. Its advantages & disadvantages. Understanding the origin & nature of tidal energy . Applications of wave energy
10	6234	Energy storage devices	CO1	To understand the need of energy storage. Different modes of energy storage.
			CO2	Understanding the electrochemical energy storage system. Role of carbon nano -tubes in electrodes.
			CO3	To understand the magnetic & electric energy storage systems. Significance of super capacitors.
			CO4	Idea of fuel cells, difference between batteries & fuel cells. Efficiency and advantages of fuel cells.
			CO5	To get the knowledge of types of fuel cells & their applications.

**Department of Chemistry**

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1201-A	Inorganic & Physical Chemistry	CO1	Student acquires understanding over the preparation, properties and uses of diborane, silicones, phosphnitric halides, oxides and oxyacids of sulphur, structures of pseudo halogens and inter halogen compounds.
			CO2	Students acquire comprehensive knowledge on magnetic properties, oxidation states, catalytic properties, complex formation in d-block elements Students acquire comprehensive knowledge on chemistry of lanthanides and actinides, lanthanide, actinide contraction, oxidation states and magnetic properties of lanthanides and actinides Students acquire knowledge on theories of bonding in metals
			CO3	Students gain knowledge on symmetry elements of crystals, Bragg's law and crystal defects.
			CO4	Students can differentiate between critical constants and van der Waals constants, differences between liquid crystals and solids, classification & applications of liquid crystals
			CO5	Students understand the concept of Azeotropes in different systems, CST, Raoult's distribution law & its applications Students acquire comprehensive knowledge on ionic product, common ion effect, solubility product and its applications Students gain knowledge on various colligative properties and their experimental determination.
2	2201-B	Organic & general chemistry	CO1	Students learn the preparation and properties of alkanes and cyclo alkenes, confirmation analysis of alkanes, relative stability of cyclo alkanes
			CO2	Students are able to understand preparation and properties of alkenes and alkynes
			CO3	Students gain understanding over molecular structure of benzene its chemical reaction and mechanism.
			CO4	Students understand the concept of adsorption, types, properties and uses of colloids and knowledge over theories of chemical bonding.
			CO5	Students understand the concepts of Stereochemistry.
3	3201-C	Organic chemistry & spectroscopy	CO1	Students will know about the preparation, properties and uses of halogen and hydroxyl compounds.
			CO2	Students will know about the preparation, properties and uses aldehydes and ketones.
			CO3	Students will know about the preparation, properties and uses Carboxylic acids & their derivatives

			CO4	Students will gain the knowledge about different types of spectroscopy & their applications
			CO5	Students will gain the knowledge about identification of functional groups by using UV & IR spectroscopy
4	4201-D	Inorganic, Organic & Physical Chemistry	CO1	Students enable to understand the concepts of organometallic compounds and their applications
			CO2	Student gain knowledge about different types of monosaccharides and disaccharides
			CO3	Students will know about the classification, preparations amino acids and heterocyclic compound and their properties
			CO4	Students acquire knowledge on classification, preparation, properties of amines, nitroalkanes,
			CO5	Students gain understanding the concepts of reaction mechanism of photo chemical reactions and first and second law of thermodynamics
5	4202-D	Inorganic and Physical chemistry	CO1	Students acquire knowledge over concepts of co-ordination compounds, their nomenclature and isomerism and theories related to the coordinate complexes.
			CO2	Students acquire knowledge over concept of reaction pathways and stabilities of metal complexes, importance of inorganic metals.
			CO3	Students acquire knowledge over concept of phase, components, degrees of freedom and their relations In terms of one-component system, eutectic system , congruent and incongruent melting points
			CO4	Students acquire knowledge of conductance, cell constant and their applications , determination of transport numbers, concept of electrochemical cells and fuel cells
			CO5	Students acquire knowledge of rate of reactions, its affecting factors, order, order determination methods, theories of reaction rates and enzyme reactions
6	5201	Inorganic, Physical & Organic Chemistry	CO1	Students acquire knowledge over concepts of co-ordination compounds, their nomenclature and isomerism.
			CO2	Students acquire knowledge over concepts of magnetic properties and stabilities of metal complexes.
			CO3	Students gain understanding on preparation, properties and uses of nitro alkanes, NEF, Mannich and Michael addition reactions.
			CO4	Students gain knowledge on the types of amines, the preparation properties and uses of aromatic amines.
			CO5	Students gain understanding over the concepts of thermodynamics,carnots cycle, adiabatic and isothermal processes, entropy and its significance.
7	5202	Inorganic, Organic & Physical	CO1	Student acquire knowledge about various biological importance various inorganic elements.



		Chemistry	CO2	Students gain understanding the concepts of chemical kinetics and reaction mechanism of photo chemical reactions.
			CO3	Students gain knowledge on synthesis and properties of Pyrrole, Pyridine, Furan and Pyridine.
			CO4	Students gain understanding on the structure of glucose, fructose and mechanisms of interconversions.
			CO5	Students acquire knowledge on synthesis, properties of aminoacids and classification, structure of proteins.
8	6201	Analytical methods in Chemistry	CO1	Students gain knowledge on principles of volumetric and gravimetric analysis.
			CO2	Students understand the concepts of errors, significant figures, Precision, accuracy standard deviation and confidence limit.
			CO3	Students gain knowledge on the principles of Solvent extraction and Ion exchange.
			CO4	Students acquire knowledge on the classification, instrumentation of Paper chromatography.
			CO5	Students acquire knowledge on the classification, instrumentation of Column and Thin layer chromatography.
9	6202	Organic Spectroscopic Techniques	CO1	Students gain knowledge on concepts of nuclear magnetic resonance spectroscopy.
			CO2	Students gain knowledge on concepts of nuclear magnetic resonance spectroscopy.
			CO3	Students gain knowledge on concepts of UV- Visible spectroscopy.
			CO4	Students gain knowledge on the concepts of Beer's law and the quantitative determination of Metal ions.
			CO5	Students gain knowledge on concepts of Mass spectrometry.
10	6203	Advanced Organic Reactions	CO1	Students gain knowledge on principles of Organic photochemistry and photoreduction reaction.
			CO2	Students acquire knowledge on Norrish, photo fries rearrangement, Dipimethane rearrangement reactions.
			CO3	Students gain knowledge on the protection of different functional groups.
			CO4	Students acquire knowledge on Mannich, Shapiro, stark-enamine, wittig reactions and umpolung.
			CO5	Students acquire knowledge on new synthetic reactions.
11	6204	Pharmaceutical and Medicinal Chemistry	CO1	Students gain understanding of basic terminology of pharmacy.
			CO2	Students gain knowledge on the nomenclature and classification of drugs.
			CO3	Students gain understanding of antibiotics, cardiovascular drugs and antimicrobials.

			CO4	Students acquire knowledge about Antipyretics, analgesics, diuretics, anti-inflammatory drugs and antidiabetics.
			CO5	Student's gains awareness on HIV-AIDs, causes, prevention, tests, treatment and antiretroviral drugs.

### Department of Computer Science & Applications

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1213-A	Problem Solving in C	CO1	Get the knowledge on Basics of Computers Algorithms ,Flow charts, Programming Languages Structures.
			CO2	Get the knowledge on arrays, Control and conditional statements of C.
			CO3	Understand the concept of arrays and implementation, code reusability with the help of user defined functions.
			CO4	Develop programs using enumerated data types, functions and structures.
			CO5	Understanding the concept of files and Pointers.
2	2212-B	Data Structures Using C	CO1	Understand the concept of Data, Data types, Algorithms and analysis of Algorithms.
			CO2	Understand the concept of linear data Structures Arrays and Linked list.
			CO3	Understand the concept of linear data Structures Stacks and Queues.
			CO4	Understand the concept of Non-linear data Structures Trees and Applications.
			CO5	Understand the concept of Non-linear data Structures Graphs, Sorting and Searching Algorithms.
3	1212-A	Mathematics for Data Science	CO1	Get Knowledge about the basic operations of Matrices
			CO2	Understand the concept of Eigen values and Eigen vectors and their Applications.
			CO3	Get Knowledge about the Linear System of Equations and Solving methods.
			CO4	Get Knowledge about Simple Demos on Real-Valued Functions in one and more variables.
			CO5	Get Knowledge about Analysis elements Distance, Limits, Integration and Corresponding Theorems.
4	2213	Introduction To Data Science With 'R'	CO1	Understand the concept of Data and various sources of Data.
			CO2	Understand the concept of Data Preprocessing.
			CO3	Understand the concept of Data Modeling and Data Mining Techniques.
			CO4	Understand the concept of Vectors and scalars.
			CO5	Understand the concept of Matrices and High Dimensional Data.
5	1214-A	Information Technology	CO1	Get Knowledge on Fundamentals of Computers and various hardware components of Computer.
			CO2	Get Knowledge on Types of Software, Operating system-versions and Networking Basics

			CO3	Get Knowledge on working environment of MS-Word
			CO4	Get Knowledge on working environment of MS-Excel
			CO5	Get Knowledge on working environment of MS-Power Point
6	2211-B	E-Commerce & Web Designing	CO1	Get Knowledge on E-Commerce-Applications, Advantages, Disadvantages, Architecture
			CO2	Get Knowledge on Electronic Payment systems, Electronic Data Interchange
			CO3	Get Knowledge on HTML,DHTML,XML
			CO4	Get Knowledge on Advanced HTML, Cascading Style Sheets
			CO5	Get Knowledge on Scripting Language-Java Script,Document Object Model.
7	3211 - C	Database Management System	CO1	Understand the fundamental concepts of a database management system.
			CO2	Analyze database requirements and determine the entities Involved in the system and their relationship to one another.
			CO3	Develop the logical design of the database using data modeling concepts such as entity-relationship diagrams.
			CO4	Create relational tables from entity-relationship diagrams.
			CO5	Manipulate a database using SQL and develop programming Skills in SQL and PL/SQL.
8	3212 - C	Data Mining &Data Analysis	CO1	Get Knowledge on stages, task primitives of Data Mining Process and Data Mining Knowledge Representation
			CO2	Get Knowledge on Data Mining Query Language, Data Ware house and Data Pre Processing Techniques
			CO3	Get Knowledge on classification Problems, Decision Trees and Attribute Test Conditions.
			CO4	Get Knowledge on Association Rule Mining, Market Basket Analysis and Frequent Item set Mining Methods.
			CO5	Get Knowledge on Clustering Techniques.
9	3531 - C	Programming with C & C++	CO1	Get the knowledge on basics of C.
			CO2	Get the knowledge on arrays, Control and conditional statements of C
			CO3	Get the knowledge on Strings and Functions.
			CO4	Get the knowledge on fundamentals of OOPs Concepts, Classes and Objects.
			CO5	Get the knowledge on Inheritance.
10	4211-D	Object Oriented Programming Using Java	CO1	Understand the fundamental concepts of Java and Arrays.
			CO2	Understand the concepts of Strings, Classes and Methods.
			CO3	Understand the concepts of Polymorphism and Packages.
			CO4	Understand the concepts of Exceptional Handling and Threads.

			CO5	Understand the concept of Streams and Applets.
11	4212 - D	Multi Variate Technique for Data Analysis	CO1	Get Knowledge on Multivariate Techniques & its Applications, Measurement Scales.
			CO2	Get Knowledge on Factor Analysis.
			CO3	Get Knowledge on Cluster Analysis
			CO4	Get Knowledge on Regression Analysis and Discriminate Analysis.
			CO5	Get Knowledge on Linear Programming
12	4213- D	Operating Systems	CO1	Get Knowledge on Basics concepts of Operating System.
			CO2	Get Knowledge on Process and Threads.
			CO3	Understand the concept of Process Management and Dead locks
			CO4	Get Knowledge on Different allocation strategies of memory management.
			CO5	Get Knowledge on files and I/O Management
13	4214- D	Big Data Technologies	CO1	Get Knowledge on Basic Concepts of Big data.
			CO2	Get Knowledge on Basic Concepts of Hadoop.
			CO3	Get Knowledge on Hadoop architecture.
			CO4	Get Knowledge on Hadoop ecosystem and YARN.
			CO5	Get Knowledge on Architecture of HIVE,HIVEQL and HBASE.
14	4531-D	Object Oriented Programming with Java	CO1	Understand the fundamental concepts of Java and working environment of java.
			CO2	Understand the concepts of Strings, Conditional control statements and Arrays.
			CO3	Understand the concepts of Classes, objects and Polymorphism.
			CO4	Understand the concepts of Packages and Streams.
			CO5	Understand the concept of Exceptional Handling and Threads.
15	4532-D	Data Base Management Systems	CO1	Understand the fundamental concepts of a database management system.
			CO2	Understand the concepts of File based systems and its disadvantages.
			CO3	Understand the concepts of entity-relationship model.
			CO4	Working with relational tables by using SQL.
			CO5	Understand the working environment of PLSQL.

16	5211	Data Base Management Systems	CO1	Understand the fundamental concepts of a database system.
			CO2	Analyze database requirements and determine the entities Involved in the system and their relationship to one another.
			CO3	Develop the logical design of the database using data modeling Concepts such as entity-relationship diagrams.
			CO4	Create relational tables from entity-relationship diagrams.
			CO5	Manipulate a database using SQL and develop programming Skills in SQL and PL/SQL.
17	5212	Software Engineering	CO1	Get Knowledge on Software Engineering- Characteristics, Metrics, Estimation and Project Management
			CO2	Get Knowledge on Requirement Analysis and Feasibility Study
			CO3	Get Knowledge on Software Design-Architectural, Modular, Procedural and Data flow Oriented Design.
			CO4	Get Knowledge on User Interface Design-Golden Rules
			CO5	Get Knowledge on Software Quality and different types of Testing Techniques
18	5213	Big data Technologies	CO1	Big data helps an organization understand its customers better,and helps it narrow down the target audience, thus improving their marketing campaign.
			CO2	Hadoop provides massive storage for any kind of data, Enormous processing power and the ability to handle concurrent tasks or jobs.
			CO3	It provides high throughput access to application data and Hadoop Map Reduce provides YARN based parallel processing of large data sets.
			CO4	Map Reduce or YARN, are used for scheduling and processing.Hadoop Map Reduce executes a sequence of jobs and used for data warehousing.
19	5214	Big Data Acquisition	CO1	Get Knowledge on Fundamental Concepts of Big data Management and Analysis, Big data Frame Work and Challenges and Trends in Big data Acquisition
			CO2	Get Knowledge on Data Collection methods and Data Transmission methods and issues.
			CO3	Get Knowledge on Data PreProcessing Techniques.
			CO4	Get Knowledge on different types of Data Analytics and their techniques.
			CO5	Get Knowledge on Bigdata Privacy Preservations, Techniques, Tools and Social Media Analytics.
20	5531	Data Base Management Systems	CO1	Understand the fundamental concepts of a database system.
			CO2	Analyze database requirements and determine the entities involved in the system and their relationship to one another.
			CO3	Develop the logical design of the database using data modeling concepts such as entity-relationship diagrams.
			CO4	Create relational tables from entity-relationship diagrams.

			CO5	Manipulate a database using SQL and develop programming skills in SQL and PL/SQL.
21	5532	Web Technologies	CO1	Get Knowledge on Basics of HTML and Tags, Multimedia Objects
			CO2	Get Knowledge on Cascading Style Sheets, Types of Style Sheets
			CO3	Get Knowledge on basic concepts of Java Script
			CO4	Get Knowledge on Dynamic HTML and Java Script
			CO5	Get Knowledge on XML and Web Services.
22	6211	Web Technologies	CO1	Get Knowledge on Basics of HTML and Tags, Multimedia Objects
			CO2	Get Knowledge on Cascading Style Sheets, Types of Style Sheets
			CO3	Get Knowledge on Dynamic HTML and Java Script
			CO4	Get Knowledge on Ajax and Java Server Pages.
			CO5	Get Knowledge on XML and Web Services.
23	6215	Python Programming for Data Analytics	CO1	Get Knowledge on Python Concepts and Data structure Classes
			CO2	Get Knowledge on Data Wrangling
			CO3	Get Knowledge on Data Aggregation, Group Operations and Time Series Data
			CO4	Get Knowledge on Web Scraping and CSS Selectors
			CO5	Get Knowledge on different types of Visualizations in Python.
24	6212	Foundation of Data Science	CO1	Develop programming abilities in R.
			CO2	Demonstrate proficiency in statistical analysis of data.
			CO3	Develop the ability to build and assess data based models.
			CO4	Execute statistical analysis with professional statistical software.
			CO5	Demonstrate skill in data management.
25	6213	Big Data Technologies	CO1	Big data helps an organization understand its customers better, and helps it narrow down the target audience, thus improving their marketing campaign.
			CO2	Hadoop provides massive storage for any kind of data, Enormous processing power and the ability to handle concurrent tasks or jobs.
			CO3	It provides high throughput access to application data and Hadoop Map Reduce provides YARN based parallel processing of large data sets.
			CO4	Map Reduce or YARN, are used for scheduling and processing. Hadoop Map Reduce executes a sequence of jobs and used for data warehousing.
26	6214	Computing for Data Analytics	CO1	Help mitigate risks from fraud for clients and organizations and also to make better decisions.

			CO2	Understand probability distribution, which provides the probabilities of occurrence of different possible outcomes in an experiment.
			CO3	It is the practice of extracting information from existing data sets in order to determine patterns and predict future outcomes and trends.
			CO4	This technology helps to manage the time with continuous Innovations taking place in all aspects of lives.
27	6531	PHP & MY SQL	CO1	Working with My SQL databases and use PHP to Create, Modify, and delete My SQL tables, manipulate My SQL records, retrieve database records.
			CO2	Use arrays over objects and array handling functions
			CO3	Use Hidden Fields to save state, Redirecting the user, Sending Mails, Working with File Uploads.
			CO4	Cookies enable to store the session information on the client side.
			CO5	Understanding the Image-Creation Process Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images.

# Course Outcomes-PG

## Department of MA Telugu

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1511	Pracheena Sahityadhyyanam	CO1	Learn about the nature and benefits of ancient literature.
			CO2	Students know the great epic Mahabharatam
			CO3	Understand the literature of Siva Kaviyugam and Nanna Choda kavi
			CO4	Students could analyze the character of Nigama Sharma
			CO5	Students understand Bhakti Rasa Kavyamthe Bhagavatam and saints of worship of Gopikas
2	1521	Pracheena Telugu Sahitya -Parinaamam	CO1	Understand the order of literary evolution
			CO2	Students could know the methods of translations in classical literature
			CO3	Students gain knowledge about Tallapaka Annamayya Sankeertanas and musical tunes on lord Venkateswara
			CO4	Students understand various epics and poets in Katha Kavyas
			CO5	Expose the students to the ancient literary types
3	1531	Samanya Bhasha Sastram	CO1	Learn about language families especially South Dravidian languages.
			CO2	Learn the language families of Telugu language basic language structure and introduction
			CO3	Know and evaluate the accurate pronunciation of sounds
			CO4	Know the types of sentence structures, principles and definitions
			CO5	Understand the mandalikas in Telugu Literature
4	1541	Janapada Vignyanam	CO1	Understand Folklore as an integral part of Telugu literature.
			CO2	Learn the classification of folk literature
			CO3	Gain the knowledge towards the folk songs and ballads
			CO4	Students could understand epics in folk literature
			CO5	By student a folk literature student will improve love and respect on their cultural nativity
5	1551	Aadhunika Telugu Sahitya Vikasam	CO1	Students could understand modern literature
			CO2	Students know the ancient literature of Bhava,hethuvada,abhyudaya kavitvam
			CO3	Students should know the importance of literature processes
			CO4	Students understand the dalit,minority and women literature
			CO5	Perceive the need of literature for social consciousness for individual construction
6	2511	Pracheena Sahitya Parichayam	CO1	Learn about the nature and benefits of ancient literature
			CO2	Students know the great writing Kashikhandam and the



				character of Gunanidhi
			CO3	Understand the prabandha literature and known the telugu wedding traditions in vasucharithra
			CO4	Students could cultivate the social morals
			CO5	Students understand the Ramayanam especially uttar ramayanam
7	2521	Pracheena Sahitya Parinaamam	CO1	Understand the order of literary evolution
			CO2	Students could know the famous kavyas in classical literature
			CO3	Students gain knowledge about prabandha literature
			CO4	Students understand various sataka kavyas
			CO5	Expose the students to know the yakshaganam literature
8	2531	Telugu Bhaasha Vikaasam	CO1	Learn about language, especially inscriptions before the 11 th century
			CO2	Learn the parts of speech in Telugu Language
			CO3	Know difference between ancient textual and present communicative languages
			CO4	Students could understand Medal language
9	2541-A	Jaanapada Sahityam	CO1	Folk arts, stories and songs cultivate a passion for their natural beauty.
			CO2	Students could understand the importance of drushya – shravya folk literature
			CO3	Students know the customs and traditions of the people living in the villages.
			CO4	Students should know the life style of folk people
10	2551	Abhivyakti Naipunyaalu-Vyaktitva Vikasam	CO1	Perceive the need of literature for social consciousness for individual construction. Understanding language, culture, social consciousness and language skills.
			CO2	Know about the social consciousness for individual construction
			CO3	Understand the communication technology and language skills learned
			CO4	Students should adopt the human values
11	3511	Sahitya Vimarsha Alankarika Sastram	CO1	Students understand literature is as an great art in all fine arts.
			CO2	Students should know the different attitudes in literature.
			CO3	Students understand the different theories and definitions of kavyas.
			CO4	Students should know all literary types from ancient to modern.
12	3512	Dravida bhasha vignyanam	CO1	Gain knowledge about Dravidian languages.
			CO2	Learn about the place of telugu language among the Dravidian languages.
			CO3	Learn about gender, textual suffixes in Dravidian languages.
			CO4	Learn about differences-conjunctive verbs.

13	3513	Telugu VyakaranmChandassu	CO1	Students understand telugu grammar (sangnya parichchedam).
			CO2	They learn about sandhi tatsama prakaranas
			CO3	They learn about achchhika karaka prakaranas
			CO4	Understand different types of prosody
14	3514	Aadhanika telugu kavitva vikasam	CO1	Learn about the different evolutions in modern telugu literature
			CO2	Learn towards revolutionary, minority, existentialism poetry writing style
			CO3	Aware about the BC poetry
			CO4	Gain knowledge about feminist poetry
15	3515	Sanskruta vagmaya charitra	CO1	Students will learn about culture,traditions,Vedas,Upanishads,puaranas,epics and ramanaya
			CO2	Mahakavyas in sancrit language sancrit literature,their history importance, details will be learned
			CO3	Will be shot sentencesof Sanskrit liteture-kalidasa meggha sandesh
			CO4	Learn about niti upadeshakavya, shataka literature work and Panini grammar principals
16	4516	Sahitya vimarsha tatvam	CO1	Learn about literary criticism and the characteristics of critic
			CO2	Gain knowledge about Ras and Ras sidhdhanth
			CO3	Know the literary critic works of Rallapalli and R.S.Sudarshanam
			CO4	Learn modern literary critics Kattamanchi Ramapalem and kathyayani vidmahe
17	4517	Telugu vyakaranam alankaaraalu	CO1	Students understand telugu grammar (samasa,tadditha,krydantha,prakeernaka)
			CO2	They learn about kriya prakaranam
			CO3	They learn about kriya dhatuvulu
			CO4	Understand different types of alankaaras in telugu literature
18	4518	Aadhunika telugu nataka sahitya	CO1	Learn about the development of modern telugu drama
			CO2	Learn about the contributions of belalri raghava rao to telugu dramas
			CO3	Understasnd the importance of rachakonda vishvanatha satri-nijam drama
			CO4	Learn how to deal the difficulties faced by dalits in society

## Department of MA History

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1611	Historical Methods	CO1	Definition, Meaning, Nature and Scope of History
			CO2	History and its Relation with other Disciplines
			CO3	Types of Sources
			CO4	Planning of Thesis – Chapterization
2	1621	History of Ancient India (upto 650 A.D)	CO1	The South Indian Kingdom
			CO 2	Reconstructing of Ancient India History
			CO 3	Republics and the Rise of Empire
			CO 4	The Age of Guptas.
3	2621	History of Medieval India (1200A.D to 1526 A.D)	CO1	Survey of Sources of Medieval History of India.
			CO2	The Khilzi dynasy (1290-1320).
			CO3	Invasions of Timur and Breakup of Delhi Sultanate.
			CO4	Society – Economy – Religious policy under Sultanate
4	1641	History of Modern Andhra Pradesh	CO1	Impact of British rules on Andhra Renaissance
			CO2	Political awakening in Telangana – Freedom Struggle in Telangana
			CO3	Communist Parties and Revolutions in Telangana. Armed Struggle in Telangana
			CO4	Development of Telugu Language and Literature and contribution of Andhra to Other cultures
			CO5	Separatist movement of Andhra Pradesh Formati
5	1651	History of Ancient Civilization of the World	CO1	Copper age Civilization, Paleolithic age, Old Stones Civilization
			CO2	Indus Civilizations, Development of the Civilization Social Causes Civilization etc.
			CO3	Mesopotamian Civilizations, Social Economical Religious condition
			CO4	Egyptian Civilization Causes Civilization etc
6	2611	Historiography	CO1	Traditions of Historical Writing
			CO2	History and Enlightenment
			CO3	Indian Historiography (Ancient and Medieval Period)
			CO4	Modern Indian Historiography and Approaches
7	1631	History of Ancient India 650 to 1200	CO1	Interpreting the Period
			CO2	Polity and Economy
			CO3	Society and Religion
			CO4	Literature, Art and Architecture
8	2631	History of Medieval	CO1	Source of Mughal History

		India 1526 -1750 AD	CO2	Akbar – Rajput, Religious and Deccan Policy
			CO3	Aurangzeb and his Religious and Deccan Policy
			CO4	Socio – Economic Conditions – Agrarian Structure
9	2641	History of Ancient Civilizations of the World	CO1	Classical Civilizations – Origin and growth of Civilizations
			CO2	Greek Civilization Myccnacan’s and Maccdon - Society and economy
			CO3	Roman Civilization – Society and Economy.
			CO4	Chinese Civilization – Society and Economy early science and technology Religion
			CO5	Ancient Civilization in America
			CO6	By zantine Civilization Judaism
10	2651	National Movement	CO1	The Great Revolt of 1857
			CO2	Birth of Indian National Congress and its Activities upto 1905. Constitutional Development
			CO3	Gandhian Era- Non – Cooperation –Khilafat – Civil Disobedience Salt Satyagraha Movement
11	3611	History of Modern India (1750-1857)	CO1	Advent of Europeans – Anglo French Conflict
			CO2	British Supremacy in Bengal – Robert Clive
			CO3	Lord Dalhousie – Doctrine of Lapse, British Paramountacy on Princely states in India Resistance to British Rule
			CO4	Constitutional development in India from 1773-1858
12	3612	History of Modern World (1789 -1919)	CO1	French Revolutions causes course and results
			CO2	Nemplan Bonaparte
			CO3	Vienna Congress
			CO4	Causes for the world war
13	3613	History of Modern East Asia (China 1850-1950)	CO1	Historical Background – Advent of Europeans
			CO2	Empress Dowager Tzu – Tsi – Modernisation of Army, Navy, Industrialization, Education
			CO3	Reform Movement in China
			CO4	Kuomintang – Reforms of Naking Government
14	3614	Leaders of Modern India	CO1	Social
			CO2	Early Political Leader of india
			CO3	Extremists
			CO4	Gandhian Era
15	3615	Optional	CO1	Characteristics of Tourism

		History Application in Tourism	CO2	Designing of Tourism – Marketing and Communications
			CO3	History of a Tourism Product
			CO4	Understanding Tourists and Hosts.
16	4611	History of Modern India (1858-1950)	CO1	India under the crown
			CO2	Cultural Change and Socio- Religious reform Movements
			CO3	National Movement
			CO4	Growth of Representative Institutions.
17	4612	History of Modern World (1919 -1980)	CO1	New Dictatorship and old democracies.
			CO2	The Quest for Security
			CO3	Soviet union 1919-1939
			CO4	Second World War – Causes
18	3613	History of Modern East Asia (China 1850-1950)	CO1	Historical Background – Advent of Europeans
			CO2	Empress Dowager Tzu- Tsi
			CO3	Reform Movement in China
			CO4	Kuomingtung –Reforms of Nanking Government
19	4614	Social, Economic and Cultural History of Vijayanagara Empire	CO1	Administration under Vijayanara Empire
			CO2	Society and Religion under Vijayanagaras
			CO3	Economy under Vijayanagaras
			CO4	Literature and literary development
			CO5	Art and architecture under Vijayanagara rulers
20	4615	History of Tourism and Management	CO1	Management in Tourism
			CO2	Tourism Development – Product and Operations
			CO3	Tourism Development in Andhra Pradesh
			CO4	Tourism Promotion and its impact in A.P

**Department of M.Com(Professional)**

<b>S.No</b>	<b>Paper Code</b>	<b>Title of the Paper</b>	<b>CO</b>	<b>Course Outcomes</b>
1	1411	Managerial	CO1	To provide the knowledge of concepts of managerial

		Economics		economics to the students.
			CO2	To educate students the knowledge of Law of Demand and Elasticity of demand.
			CO3	To impart the knowledge of various cost concepts and cost outputs relationships to the students.
			CO4	To impart the knowledge of production function Laws of production to the students.
			CO5	To Equip the students with the knowledge of various market structure and pricing Methods.
2	1421	Accounting for Service Organizations	CO1	To provide the students knowledge of Accounting in Electricity companies.
			CO2	To Inculcate the knowledge of Branch accounts in the students.
			CO3	To impart the knowledge of Accounting procedure followed in banking companies to the students.
			CO4	To impart the knowledge of Accounting procedure followed by life Insurance companies to the students.
			CO5	To Impart the knowledge of General Insurance Accounts to the students.
3	1431	Management and Organizational Behavior	CO1	To impart the knowledge about various approaches and concepts of Organizational Behavior to the students.
			CO2	To Impart the knowledge about functions of Management to the students.
			CO3	To inculcate the knowledge about Types of personality-Theories of motivation in the students
			CO4	To Provide the knowledge of Dynamics of group behaviors and theories of Leadership to the students.
			CO5	To inculcate the knowledge of Organizational change – Approaches to achieve organizational effectiveness in the students.
4	1451	Entrepreneurship and Small Business Management	CO2	To Impart the knowledge of Entrepreneurial functions and tasks-problems and challenges of Women entrepreneurship to the students.
			CO3	To inculcate the knowledge of Role and significance of Small business Enterprises in India-Features of MSME Act 2006 in the students.
			CO4	To Provide the knowledge of Project Identification and selection-project formulation and project Appraisal to the students.
			CO5	To Inculcate the knowledge of Fundamentals of Management, Working Capital Management, Inventory Management, Production and Operations Management in the students.
			CO5	To impart the knowledge of Teething problems in setting small units-International Business- future potential and need for small units to the students.
5	1441	Quantitative Techniques for Business Decisions	CO1	To Provide the knowledge of Meaning- Scope-Role of Business Research- Objectives of Business Research to the students.
			CO2	To Impart the knowledge of Meaning and Definition of probability- Theorems of probability to the students.

			CO3	To Inculcate the knowledge of Meaning and Definition of Hypothesis- Formulation of Hypothesis- Procedure of testing of Hypothesis in the students.
			CO4	To impart the knowledge of Formulation of Problems- Maximization and Minimization problems to the students.
			CO5	To inculcate the knowledge of Objectives and Role of Statistical Quality control and the procedure of Constructing Quality control charts in the students/
6	2411 B	Business Environment and Government policy	CO1	To provide the Knowledge of Micro Environment-Macro Environment and Fiscal policy- Monetary policy- Competition policy to the students,
			CO2	To Educate the students about Liberalization and Globalization in India-consequences of globalization in India.
			CO3	To Familiarize the Knowledge of Changing role of public sector and Concepts –Nature-Objectives to the students.
			CO4	To Provide the Knowledge of Foreign direct investment policy and FEMA- Objectives to the students.
			CO5	To inculcate the Knowledge of Agreement on Agriculture (AOA)- Trade Related Intellectual property Rights (TRIPS) – Trade Related Investment Measures (TRIMS) in the students.
7	2421 B	Human Resources Management	CO1	To Impart the Knowledge of Human Resource Management- Concepts and Human Resource Development (HRD)to the students.
			CO2	To impart the Knowledge of HRP concept –Nature-Importance- Factors affecting HRMto the students.
			CO3	To Familiarize the Knowledge of Recruitment- Source of recruitment and Training methods to the students.
			CO4	To Provide the Knowledge of Performance appraisal system- Appraisal methods- Challenges of performance appraisal to the students.
			CO5	To Indoctrinate the Knowledge of Wage and Salary administration – Principles and Grievances Causes- Procedure for grievance redressalin the students.
8	2431 B	Financial Mangement	CO1	To impart the Knowledge of Financial Decision- Objectives of financial Management to the students.
			CO2	To Impart the Knowledge of Various Sources of capital – Concepts of Leverage to the students.
			CO3	To Provide the Knowledge of Capital Budgeting: Meanin– Importance- Process- Kinds of capital Budgeting Decision to the students.
			CO4	To Inculcate the Knowledge of Determination of Dividends policy-Dividend Theories- Relevance Theories in the students.
			CO5	To inculcate the Knowledge of Concept of Working Capital – Determinants of working capital in the students.
9	2441 B	Marketing Management	CO1	To impart the Knowledge of Concept of Marketing – Nature and Scope- Evaluation – Approaches to the study of

				marketing to the students.
			CO2	To inculcate the Knowledge of Concept of product-Classification- product Item- product line and project mix decisions in the students.
			CO3	To Provide the Knowledge of Marketing Channels – Online marketing Tools to the students.
			CO4	To Familiarize the Knowledge of Concept of promotions and communications – Marketing communications – sales communications to the students.
			CO5	To Impart the Knowledge of Factors influencing marketing services – classification of services to the students.
10	2451 B	Accounting For Managerial Decisions	CO1	To impart the Knowledge of Nature and Scope of financial accounting, cost accounting and management accounting to the students.
			CO2	To inculcate the Knowledge of Ratio Analysis – Cash Flow Analysis- Funds flow Analysis in the students.
			CO3	To provide the Knowledge of Essential of budgeting and – Functional budget and master to the students.
			CO4	To Impart the Knowledge of Concept of marginal cost: Marginal costing and absorption costing to the students.
			CO5	To inculcate the Knowledge of Setting of standards and their revision Variance analysis in the students.
11	2461	Personal Financial Planning(Open Elective Paper)	CO1	To Impart the Knowledge of Principles of personal Finance to the students.
			CO2	To Provide the Knowledge of Products of Personal Financial Planning to the students.
			CO3	To familiarize the Knowledge of Risk and Return- Concepts to the students.
			CO4	To impart the Knowledge of Personal Tax Planning to the students.
			CO5	To inculcate the Knowledge of Personal Finance and Environment Influences in the students.
12	3411	Strategic Management	CO1	To Provide the Knowledge of Importance And Strategic Management Process- Defining the company Mission to the students.
			CO2	To Educate the students Knowledge of Economic, Social, Technological and Market Environment.
			CO3	To impart the Knowledge of Formulation of Strategies: Long term objective – Strategic Planning to the students.
			CO4	To Familiarize the Knowledge of Functional Strategies – Impact of Leadership on implementation to the students.
			CO5	To impart the Knowledge of Strategy Evaluation – Importance – Symptoms of malfunctioning of strategy to the students.
13	3471	Advance Cost and Management Accounting	CO1	To Provide the Knowledge of Management Accounting – Nature and Scope to the students.
			CO2	To Educate students the Knowledge of Cost Concepts for Decision Making.
			CO3	To impart the Knowledge of Cost Analysis for Pricing Decisions to the students.
			CO4	To Familiarize the Knowledge of Cost Analysis for



				Product Decisions to the students.
			CO5	To Impart the Knowledge of Budgeting – Types of Budgets to the students.
14	3441	Security Analysis and Portfolio Management	CO1	To Impart the Knowledge of Nature and Scope of investment Analysis to the students.
			CO2	To Provide the students the Knowledge of (A)Elements of Investment Return and Risk Elements (B) Valuation of Securities
			CO3	To impart the Knowledge of Technical Analysis and Market Analysis to the students.
			CO4	To impart students the Knowledge of (A)Efficient Market Hypothesis (B) Portfolio Analysis
			CO5	To inculcate the Knowledge of Portfolio Revision in the students.
15	3431-A	Financial Institutions and Markets	CO1	To provide the Knowledge of Meaning and Objections of Financial Systems to the students.
			CO2	To Impart the Knowledge of Concept, Features, Functions and Significance of Money Market to the students.
			CO3	To impart the Knowledge of Concept, Features, Functions and Significance of Capital Market to the students.
			CO4	To Provide the Knowledge of Secondary Markets: Stock Exchanges – Organization – Functions to the students.
			CO5	To impart the Knowledge of RBI : Introduction, Importance and Functions of RBI to the students.
16	3481	E-Commerce	CO1	To impart the Knowledge of Scope of E-Commerce (Ec) Advantages and Disadvantages of E-Commerce to the students.
			CO2	To inculcate the Knowledge of Evolution of the Internet – Internet for Business – Category of Networks in the students.
			CO3	To provide the Knowledge of Procedures for Internet Shopping – Web Advertisement to the students.
			CO4	To Familiarize the Knowledge of Security Schemes in Electronic Payment Systems to the students.
			CO5	To Impart the Knowledge of Internet Protocols – Internet Security to the students.
17	4481	Business Research Methods	CO1	To Provide the Knowledge of Measures of Relationship – Kari’s Pearson’s Co-efficient – Regression Analysis to the students.
			CO2	To impart the Knowledge of Meaning and Definition of Probability to the students.
			CO3	To inculcate the Knowledge of Theory of Estimation in the students.
			CO4	To impart the Knowledge of Test of Significance and Testing of Hypothesis to the students.
			CO5	To Impart the Knowledge of Statistical Quality Control to the students
18	4411	International Business	CO1	To impart the Knowledge of International Business-Meaning – Nature and Scopeto the students.
			CO2	To inculcate the Knowledge of Globalization – Meaning

				nature- Scope to the students.
			CO3	To Provide the Knowledge of Introduction – Traffis- subsidies – Import Quotes Constraints “Govt’s Interventions in formulating trade policiesto the students.
			CO4	To impart the Knowledge of General Agreement on Traffis and trade (GATT)- World Trade Organization (WTO)- International Monetary Fund (IMF)to the students.
			CO5	To inculcate the Knowledge of Conflict in international business- Conflict Resolutions in the students.
19	4491	Financial Services	CO1	To provide the Knowledge of Financial system and Markets- Nature and Scope of Financial Servicesto the students.
			CO2	To impart the Knowledge of Asset Financing Services- Leasing-Legal , Tax and Accounting aspects of Leasingto the students.
			CO3	To Provide the Knowledge of Merchant Banking Operatonto the students.
			CO4	To inculcate the Knowledge of Financial Market Operations in the students.
			CO5	To Educate the students about Knowledge of Allied Financial Services to the students.
20	4501	International Financial Management	CO1	To impart the Knowledge of International Finance and Multinational Business Firmsto the students.
			CO2	To provide the Knowledge of Foreign Exchanges Markets: Major Participantsto the students.
			CO3	To provide the Knowledge of International Capital Budgetingto the students.
			CO4	To inculcate the Knowledge of Management of Working Capital in the students.
			CO5	To impart the Knowledge of Global Financial Marketsto the students.
21	4431	Goods And Services Tax	CO1	To inculcate the Knowledge of Overview of Goods & Services Tax System in the students.
			CO2	To impart the Knowledge of GST Modelto the students.
			CO3	To Inculcate the Knowledge of Taxes and Duties Transactions & Taxes Covered under GST- Taxes and Duties outside the Purview of GST in the students.
			CO4	To Provide the Knowledge of Major advantages of IGST Modelto the students.
			CO5	To impart the Knowledge of Place and Value of Supplyto the students.

### Department of M. Sc Botany

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1111	Biology and diversity of bacteria, fungi, viruses & Plant pathology	CO1	Acquaint with concepts in prokaryotic, eukaryotic, and viral genetics
			CO2	Students <b>will</b> be able to understand the structure, type and identification of Bacteria and cyan bacteria.
			CO3	Students will gain understanding of the classification, structure of mycelium reproduction of fungal species. They

				will know about the hazardous and useful fungi.
			CO4	Students will gain understanding of the plant diseases, causal organism, host and their relationship and control measure for plant diseases
2	1121	Biology and diversity of algae, bryophyta and pteridophyta and gymnosperms	CO1	Students will gain understanding of Thallus structure, reproduction and economic importance algae. Student can identify different types of forms of cyanobacteria.
			CO2	Student can classify and identify the Algal genus and specimen included.
			CO3	Student can make micro preparation of the material of Pteridophyta and bryophytes and identified anatomically.
			CO4	Understanding the meaning of fossil and its use in the determination of age of plant materials, Understanding the applied knowledge and different aspects of Paleobotany
3	1131	Plant taxonomy	CO1	Able to understand different artificial, natural and Phylogenetic classification systems. Well acquainted with Bentham & Hookers System of classification.
			CO2	Study plant morphology and describe a plant specimen. Preparation of botanical keys at generic level by locating key characters.
			CO3	Study of at least 20 locally available families of flowering plants. Identification of genus and species of locally available wild plants.
			CO4	Knowledge of at least 10 medicinal plant species.
4	1141	Plant physiology	CO1	After completion of the course the students are familiar with various physiological aspects involved in the plant development.
			CO2	Also, the role of enzymes in it and mechanism of photosynthesis, respiration, nitrogen and lipid metabolism.
			CO3	The students are able to isolate starch, pectin and various nutritive products from the plants.
			CO4	Qualitative and quantification of the plant contents and its biochemistry and mode /mechanism of synthesis etc.
5	2111	Cell biology and plant development	CO1	Understand the cell structures in relation to function of cells the fundamental unit of life, are concerned in this course along with molecules present in cells.
			CO2	Gain knowledge on Cellular communication & Cell signaling
			CO3	Know about plants anatomical structure, their developmental patterns.
			CO4	Mechanical tissues, Normal and abnormal secondary growth etc.
6	2121	Molecular genetics and techniques in biology	CO1	Explain central dogma of molecular biology (replication, transcription, and translation).
			CO2	Enlist and explain types of mutations, gene regulation and transposable element.
			CO3	To acquire skills on Laboratory Techniques viz. Microscopy, SEM & TEM, Ultracentrifugation, fractionation, Electrophoresis, PCR and Immunochemical techniques. Isolation of plant DNA and its quantification.

			CO4	Apply the laboratory skills in different experiments in different situation
7	2131	Plant biochemistry	CO1	The students will learn about the chemical structures of carbohydrate, and their structural and metabolic role in cellular system
			CO2	The students will learn about structure and function of lipids, circulating lipids and inflammatory lipid mediators etc. They will also learn about primary, secondary, tertiary, quaternary structure of proteins.
			CO3	The students will understand about the structure and function of nucleosides and nucleotides.
			CO4	The course will aid the students in understanding other accessory molecules like vitamins, plant and animal hormones, plant secondary metabolite like terpenes.
8	2141	Open elective- Plants and Human welfare	CO1	Realize ecological importance of plants and discuss the role of plants in relation to Human Welfare
			CO2	Understand the dependence of human being on different plant resources.
			CO3	Students gain knowledge on mushrooms nutritional benefits, types, mushroom cultivation technology and also marketing of mushrooms in India and abroad.
			CO4	Students gain knowledge on Organic farming and its importance, types of organic farming, economic potential of organic farming in India and also certified organic products in India
9	1111	Biology and diversity of bacteria, fungi, viruses & Plant pathology and Biology and diversity of algae, bryophyta and pteridophyta and gymnosperms	CO1	Able to do the gram staining of bacteria.
			CO2	Morphological study of fungi belonging to Myxomycota, Zygomycotina, Ascomycotina, Basidiomycotina and Deuteromycotina.
			CO3	Able to understand the mushroom cultivation.
			CO4	Study of morphology and anatomy of vegetative structures of Algae, Bryophytes, Pteridophytes and Gymnosperms
10	3111	Plant Ecology	CO1	On completion of this course the students are able to analyze various types of ecosystems, correlate different ecosystems and biogeochemical cycles.
			CO2	Understood the characteristics of plant communities, methods to study the plant communities, and ecological adaptations.
			CO3	The students gain knowledge on characteristics of plant populations, population regulation, population dynamics and ecological niche.
			CO4	Students are able to explain on types of natural resources, various environmental challenges and its solutions.
11	3121	Plant Molecular Biology & Bioinformatics	CO1	. Understand in-depth knowledge on Molecular Biology Understand in detailed mechanisms of DNA Replication Understand the overall concepts of Transcription, Translation and the process of Mapping and sequencing of genome

			CO2	Use the Bioinformatics toll in biological data analysis
			CO3	Classify different types of Biological Databases. Introduction to the basics of sequence alignment and analysis.
			CO4	Explain about different types of protein and other organism specific databases.
			CO5	Able to explain the methods used for characterizing and managing biological data. Classify different types of Biological Databases.
12	3151	Plant Development, Reproduction and Tissue Culture	CO1	Discuss the structural elements of plants floral parts and reproduction.
			CO2	Discuss the Pollination, fertilization and seed development, embryology and apomixis.
			CO3	Able to explain the concept and principles of Tissue culture, methodology, organogenesis.
			CO4	Able to explain the embryo and endosperm culture, somatic hybridization, production of secondary metabolites and cryopreservation.
13	3131	Biosystematics	CO1	Development of taxonomic tools in plants systematics.
			CO2	Understand the Concept of characters, character weighing and different breeding systems
			CO3	Understand the Different sources of characters like external morphology, embryology, cytology, palynology etc. and evaluation
			CO4	Students gain knowledge on numerical Taxonomy, construction of taxonomic groups, concept, classification and mechanism of speciation
14	4112	Plant Genetic Engineering	CO1	Able to explain the DNA Cutting and joining, different restriction endonucleases and PCR Technique.
			CO2	Able to explain the various cloning vectors, its usage and its significance
			CO3	Get awareness on Gene libraries, methods of introduction of rDNA in to host genome, transgenic plants and IPR.
			CO4	Able to explain the expression of cloned genes, production technologies like plantibodies, molecular markers, DNA fingerprinting.
15	4122	Ethnobotany & Pharmacognosy	CO1	Bring out the relevance of ethnobotany in the present context.
			CO2	Learn about the Methodology of Ethnobotanical studies
			CO3	Gain knowledge on the role of Role of ethnobotany in modern Medicine.
			CO4	Get awareness on the conservation practices of medicinal plants
16	4132	Biodiversity, Conservation & Management	CO1	Systematically understand biodiversity and its vital role in ecosystem function.
			CO2	Identify the importance of biodiversity in natural environments Critically examine biodiversity and human linkages, and help policy formulating for conservation Application of knowledge in general communication for public extension
			CO3	Developing critical thinking for the conservation of

				biodiversity and strategies used for the conservation of plant diversity
17	4142	Horticulture	CO1	Learn the importance of horticulture – career and occupational opportunities
			CO2	Learn the techniques of gardening - Types, Methods & Tools
			CO3	Learn about Olericulture - Cultivation of commercial flower crops
			CO4	Learn the techniques in Pomology - Cultivation of important fruit crops & tree species
18	Project Work	Dissertation of Project work in last semester along with Viva and Seminar.	CO1	Design the experiments of his interest and execute it. Trained in handling of the basic and advance instruments. Generate the data, compile and analyze and interpret the data.
			CO2	Presentation skill is developed in the students. The student is ready to work in any R&D setup.

### Department of M.Sc Zoology

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	1911	Structure, functions and anatomy of Non-chordates and Chordates	CO1	Know the animal's classification system and their zoological nomenclature. Describe the Patterns of feeding and digestion in lower metazoan and Feeding in polychaeta, Mollusca, Echinodermata
			CO2	Understand the Respiration, Circulation, Nervous System and Larval Forms of Invertebrates
			CO3	Evolutionary time scale, Integumentary system and Circulatory system of chordates
			CO4	Understand Respiratory and Nervous System of Chordates
2	1912	Genetics and Evolution	CO1	To understand the Concept of gene: Alleles, Multiple alleles, To acquire broad knowledge on Gene mapping methods: Linkage-complete and Incomplete linkage, Crossing over and Mutations
			CO2	To understand the various aspects of Numerical and Structural abnormalities of human chromosomes and syndromes
			CO3	To describe the Emphasis on Darwinism, Neo-Darwinism, Role of isolating mechanisms, Models of speciation and Micro and Micro Evolution
			CO4	Understand evolutionary forces, Gene evolution and Amino acid sequence and phylogeny
3	1913	Biomolecules and Metabolic Regulation	CO1	Know the Principles and Laws of thermodynamics. Describe the Intermediary Metabolism-I: Glycolysis, TCA Cycle and their Bio-medical importance
			CO2	Understand the Structure of Proteins, amino acids, Metabolism and ctabolism of proteins
			CO3	Understand the Structure of lipids ,Meatabolism and ctabolism of lipids
			CO4	Understand the Structure of nucleic acids ,Meatabolism and clinical disorders of purine and pyramidines

4	1914	Biophysical and Biochemical techniques	CO1	Understand general laboratory procedures and maintenance of research equipments, microscopy, centrifuge. Understand how to isolate cellular constituents by using different centrifuges
			CO2	Learn the principles and applications of electrophoresis, Radio isotope techniques, Blotting techniques and Spectroscopy
			CO3	Describe the principle of flame photometer and microtomy, Immunohistochemistry, Immunofluorescence and colocalization staining procedures and applications voltage clamp
			CO4	Understand Design and functioning of tissue culture laboratory, Primary culture, secondary culture, cell line, confluence, Cell proliferation measurements, Cell viability testing, Culture media preparation and cell harvesting methods
5	2911	Biostatistics & Bioinformatics	CO1	To understand Measures of central tendency, Measures of dispersion, Co-efficient of variation, types of correlation, linear regression analysis
			CO2	Concepts of probability, Tests of significance, Application of $\chi^2$ (chi-square) test in biology and testing the goodness of fit, Analysis of Variance (ANOVA), SPSS
			CO3	Understand why biologists need a background in statistics
			CO4	Know History of Computers, Operating system, MS office
6	2912	Cell Biology and Immunology	CO1	Understand the structure and function of cell and its organelles
			CO2	Acquire combined knowledge on Cell division and cell cycle
			CO3	Understand the types of Immune system, Know the types of lymphoid organs, lymph nodes and their functions
			CO4	Realize the antigen types and their functions, Describe the types and functions of Immunoglobins
7	2913	Physiology of Animals	CO1	Learn animal foods & nutritive types, feeding mechanisms in different animals and process and role of enzymes in digestion, absorption & assimilation
			CO2	Recognise the presence of different types of respiratory pigments & their functions. Identify organs involved in respiration among aquatic amphibians and terrestrial birds & mammals
			CO3	Learn Thermoregulation, Poikilothermic animals, Hibernation & Aestivation. Biological Rhythms
			CO4	Understand Bioluminescence, Structure and function of muscles, Theories of muscle contraction. Physiology of receptors
8	2914	OE: Sericulture	CO1	Understand the cultivation methods of mulberry
			CO2	Acquire combined knowledge on rearing of silkworm
			CO3	Understand Diseases of Silkworm and Preventive measures
			CO4	Understand Silk Dying and Finishing

<b>S.No</b>	<b>Paper Code</b>	<b>Title of the Paper</b>	<b>CO</b>	<b>Course Outcomes</b>
1	101	Inorganic Chemistry –I	CO1	Student acquires an understanding over the splitting patterns of different metal complexes, John-Teller effect and term symbols.
			CO2	Students acquire comprehensive knowledge on the preparation, structure and reactions of different Inorganic cage and Ring compounds.
			CO3	Student gains knowledge over different theories and structures of different metal complexes.
			CO4	Student gains knowledge about electronic spectra and magnetic properties of Transition metal Complexes.
2	102	Organic Chemistry-I	CO1	Students understand the orientation of Molecules in Space by learning the Stereochemistry.
			CO2	Students gain understanding over different nature of Bonding, Aromaticity, Metallocenes
			CO3	Structure, Stability, Detection and Reactivity of Intermediates
			CO4	Students gain knowledge on Addition, Substitution and Elimination reactions.
3	103	Physical Chemistry -I	CO1	Students gain knowledge on the different concepts of Thermodynamics.
			CO2	Student gain knowledge about properties and theories of Polymers..
			CO3	Students will gain knowledge on theories of reaction rate, Unimolecular, Chain and Fast reactions.
			CO4	Students will know about the concepts in Electro-Chemistry.
4	104	General Chemistry-I	CO1	Students acquire knowledge on the different concepts of Group theory
			CO2	Student gain knowledge on the basics of Spectroscopy and microwave spectra of diatomic molecules.
			CO3	Students will know about the Principle and applications of I.R and Raman Spectroscopy.
			CO4	Students gain knowledge on the Line spectra, band spectra, Frank-Condon principle, selection rules and effect of vibrational-rotational spectra on electronic spectra of homo nuclear and hetero nuclear diatomic molecules
5	201	Inorganic Chemistry –II	CO1	Students acquire knowledge over formation of M-M bonds and preparation, structure and bonding of the following metal cluster compounds.
			CO2	Students acquire knowledge Isoelectronic relationship, Isolobal relationship and Synthesis, structure, bonding and reactions of metallocenes with special reference to ferrocene.
			CO3	Students gain understanding on Pearson's theory of hard and soft acids and bases (HSAB) and Reactivity of metal complexes.
			CO4	Students gain knowledge on the different types inorganic



				reaction mechanism in metal complexes..
6	202	Organic Chemistry-II	CO1	Students gain Knowledge over different Molecular Rearrangements..
			CO2	Students gain knowledge about mechanism of Elimination reactions.
			CO3	Students gain Knowledge over different Named Reactions and reagents useful in the synthesis of various Natural products.
			CO4	Students gain knowledge about the Organo-metallic reagents useful in the synthesis of various Natural products.
7	203	Physical Chemistry -II	CO1	Students gain knowledge on the topics of Statistical Thermodynamics.
			CO2	Students gain knowledge on the Homogeneous catalysis, Free radicals in chemical reactions and introduction about Enzyme Catalysis.
			CO3	Students gain knowledge on the Concept of activity and activity coefficient of an electrolyte, Electrode polarization and Paleography.
			CO4	Student's gains knowledge on the concepts of Quantum Chemistry.
8	204	Environmental Chemistry (Open Elective)	CO1	Students gain knowledge on the concepts of Hydrosphere.
			CO2	Students gain knowledge on concepts of Atmosphere.
			CO3	Students gain knowledge on concepts of Environmental toxicology and Green Chemistry.
			CO4	Students gain knowledge on Monitoring of Air and Water pollutants.
9	301	Organic Synthesis-I	CO1	Students gain knowledge on Electro synthetic analysis, chemo selectivity, reversal of polarity
			CO2	Students acquire knowledge on structure elucidation & synthesis of alkaloids, terpenoids & steroids
			CO3	Students gain knowledge on confirmation of acyclic molecules and monocyclic compounds
			CO4	Students acquire knowledge on synthesis and mechanism of named reactions
10	302	Reaction mechanism-II & Organic Photochemistry	CO1	Students gain knowledge on the aliphatic and aromatic nucleophilic substitution reactions
			CO2	Students gain knowledge on aliphatic electrophilic substitution reactions
			CO3	Students gain knowledge on the basic of Organic Photochemistry.
			CO4	Students acquire knowledge about different types of Organic Photochemistry reactions.
11	303	Organic spectroscopy -I	CO1	Students gain knowledge on different adsorption bands, Woodward fisher rules

			CO2	Students gain knowledge on different modes of vibrations, finger print region and its importance
			CO3	Students gain knowledge on basic principle of nmr, concepts
			CO4	Students gain knowledge on concepts of Mass spectrometry.
12	304	Natural products	CO1	Students acquire knowledge on synthesis & reactivity of heterocyclic compounds
			CO2	Students gain knowledge on the proteins & synthesis of peptides
			CO3	Students acquire knowledge on different types of fatty acids
			CO4	Students acquire knowledge classification and isolation of nucleic acids
13	401	Organic Synthesis - II	CO1	Students acquire knowledge on enantioselectivity, diastereoselectivity, regio selectivity , topocity
			CO2	Students acquire knowledge on assymmetric methods of synthesis of organic compounds
			CO3	Students acquire knowledge on bonding in B, P, & S compounds and their reactivity and applications in organic synthesis
			CO4	Students acquire knowledge on Theory and importance of different functional group protection and deprotection in organic synthesis
14	402	PSeparation techniques and green chemistry Organic spectroscopy- II	CO1	Students gain knowledge on the principles & classification of chromatographic techniques
			CO2	Students gain knowledge on the basics of Green chemistry..
			CO3	Students gain knowledge on the different types of green reactions.
			CO4	Students gain knowledge on the basic chemistry of nanoscience and characterisation of nanomaterials
15	403		CO1	Students gain knowledge on ORD & CD curves
			CO2	Students gain knowledge on the C-13-NMR spectroscopic techniques
			CO3	Students gain knowledge on the 2D-NMR spectroscopic techniques
			CO4	Students gain knowledge on the principle & instrumentation of ESR- spectroscopy
16	404	Project work- (pollution)		Students gain knowledge on various pollutions

## Department of M.Sc Computer Science

S.No	Paper Code	Title of the Paper	CO	Course Outcomes
1	M.Sc 1 T1	Mathematical Foundations of Computer Science	CO1	Students acquire knowledge on Truth tables, Growth functions, relations and their applications
			CO2	Students acquire knowledge on Counting Techniques
			CO3	Students acquire knowledge on Graphs
			CO4	Students acquire knowledge on Boolean Algebra and Models of Computation
2	M.Sc 1 T2	Computer Organization	CO1	Students acquire knowledge on Logic Circuits, Basic structure of computer and Addressing Modes
			CO2	Students acquire knowledge on Processing Unit
			CO3	Students acquire knowledge on various Input-Output Organization Devices and Processor Families
			CO4	Students acquire knowledge on Memory, Memory Performance, Memory Management Requirements, Computer Peripherals
3	M.Sc 1 T3	Python Programming	CO1	Students acquire knowledge on Scripting languages, Python Concepts
			CO2	Students acquire knowledge on Functions and Sequence
			CO3	Students acquire knowledge on Strings and Regular Expressions, Object Oriented Programming
			CO4	Students acquire knowledge on Inheritance, Polymorphism and Exception Handling
4	M.Sc 1 T4	Unix Programming	CO1	Student will be able to use UNIX utilities to create and manage simple file processing operations.
			CO2	Student will be able to develop shell scripts to perform more complex task.
			CO3	Student will be able to learn about if, case, looping conditions.
			CO4	Student will able to learn Inter process communication and communication protocol.
			CO5	Student will able to learn about Berkeley Sockets
5	M.Sc 1 T5	Design and Analysis of Algorithms	CO1	Students acquire knowledge on algorithms and designing and analysis of algorithms plays
			CO2	Students acquire knowledge on Time and Space Complexity of Algorithms.
			CO3	Students acquire knowledge of divide and conquer methodology and how it works exactly in real time applications.
			CO4	Students will be able to identify the applications of Dynamic programming and Back tracking
			CO5	Students will be able to know branch and bound technique and P, NP, NP-Hard problems
6	M.Sc 2 T1	Database Management Systems	CO1	Students acquire knowledge on databases, different users and Data Models

			CO2	Students acquire knowledge on Relational Algebra and Relational Calculus
			CO3	Students acquire knowledge on Relational database design, File organization and Indexes
			CO4	Students acquire knowledge on Algorithms for Query Processing and Optimization, Transaction Processing concepts
7	M.Sc 2 T2	Data Science with R	CO1	Students acquire knowledge on Basics of R and Functions and Data Frames in R.
			CO2	Students Acquire Knowledge on Lists and Iterative Programming in R.
			CO3	Students Acquire Knowledge on Data Science Processes Visually checking relationships between variables.
			CO4	Students Acquire Knowledge on Modeling Methods and Choosing and evaluating models.
8	M.Sc 2 T3	Operating Systems	CO1	Students acquire knowledge on Basics of Operating System, Computer system structures.
			CO2	Students acquire knowledge on Process Management, Threads, CPU Scheduling
			CO3	Students acquire knowledge on Process Synchronization and Deadlocks
			CO4	Students acquire knowledge on Memory Management, Virtual Memory, File System
9	M.Sc 2 T4	Computer Networks	CO1	Students acquire knowledge on Computer Networks and the Internet, Application Layer
			CO2	Students acquire knowledge on Transport Layer
			CO3	Students acquire knowledge on Network Layer and Routing
			CO4	Students acquire knowledge on Data Link Layer and Local Area Networks
10	M.Sc 2 T5	Artificial Intelligence	CO1	Students will be able to know AI and techniques of AI
			CO2	Students will be able to know Heuristic approach A * and AO* algorithms
			CO3	Students will be able to know differences of FOL and Propositional logic
			CO4	Students will be able to know Dempster Shafer Theory and Knowledge Base System .
11	M.Sc 3 T1	Data Warehousing and Data Mining	CO1	Students acquire knowledge on Data Ware Housing and OLAP Technology
			CO2	Students acquire knowledge on Concepts of Data Mining
			CO3	Students acquire knowledge on Mining Patterns, Associations and correlations
			CO4	Students acquire knowledge on Concepts of Classification and Rules
12	M.Sc 3 T2	Big Data Analytics	CO1	Students will be able to know What is Big data, Big data Technologies, Drivers, Four V's of Big data
			CO2	Students will be able to know Hadoop Technologies and Installation
			CO3	Students will be able to know Map reduce and working with Map reduce.

			CO4	Students will be able to know Hadoop Ecosystem, ZOOKEEPER, PIG,SCOOP,FLUME etc
13	M.Sc 3 T3	Principles of Compiler Design	CO1	Students acquire knowledge on Interpreters, Compilers, Phases of Compilers and Automata
			CO2	Students acquire knowledge on Parsers, different types of parsing techniques and Intermediate code Generation
			CO3	Students acquire knowledge on Code Optimization and different types of code optimization techniques
			CO4	Students acquire knowledge on Code Generation and Peep hole optimization techniques.
14	M.Sc 3 T4	Internet of Things	CO1	Students acquire knowledge on concepts of IOT
			CO2	Students acquire knowledge on Business Models for Business Process
			CO3	Students acquire knowledge on Web Connectivity Principles, Protocols and Devices
			CO4	Students acquire knowledge on Data Collection, Storage and Computing
15	M.Sc 3 T5	Cloud Computing	CO1	Students acquire knowledge on Systems Modeling, Clustering and Visualization
			CO2	Students acquire knowledge on Cloud Services
			CO3	Students acquire knowledge on Cloud Computing Monitoring ,Management and Applications
			CO4	Students acquire knowledge on Governance and Case Studies