

**MEERUT INSTITUTE OF TECHNOLOGY, MEERUT**

**Course Outcomes Session 2023-24**

Programme	Semester	Course Code	Course Name Name	Course Outcomes
	First	AG-101	Fundamentals of Agronomy	CO1 To understand about Indian Agriculture and importance, present status, scope and future prospect.
				CO2 To understand the Cropping seasons of India, Soil formation and its properties.
				CO3 To understand the crops and crops seeds.
				CO4 To apply the understanding of Agronomy for crops cultivation and management for the purpose of producing food for human, feed for animal and raw material for industries.
				CO5 To analyze the relation of Agronomy with other disciplines such as Botany, Soil Science, crop physiology, plant ecology, plant protection, Plant Genetics and Breeding, Agro meteorology etc.
	First	AG 102	Fundamentals Of Genetics	CO1 To understand about the historical development aspect of genetics.
				CO2 To understand the concept of inheritance and cell division.
				CO3 To understand the linkage and crossing over and its significance in plants.
				CO4 To understand the causes of various genetic disorders proper.
				CO5 To know proper handling during laboratory work.
				CO6 Understand the basic concepts of the ultra structure of cell, cell organelles, chromosomes and nucleic acids.
	First	AG 103	Fundamentals of Soil Science	CO1 To understand about soil forming rocks and minerals, their weathering and soil forming processes .
				CO2 To understand about physical and chemical properties of soil and their effect on plant's health.
				CO3 To understand students about causes, effects and remedies to prevention and mitigation of soil pollution.
				CO4 Student will able to evaluate physical and chemical properties of soil.
				CO5 The students are expected to gain practical knowledge on different aspects of fundamental of soil science like genesis of soil, soil profile, various properties of soil viz., soil texture, soil structure, soil density, soil colour, soil temperature, soil air, soil colloid, soil organic matter, soil organisms etc.
	First	AG 104	Fundamentals Of Horticulture	CO1 To understand horticulture relates to the economy and environments, both currently and in the future.
				CO2 Students will understand basic principles, processes and plant propagation methods.
				CO3 Students will be able to understand plant vegetative structure
				CO4 Students will apply his understanding in plant propagations, harvest and management.
				CO5 Students will acquire practical knowledge on physiology of horticultural crops, PGR and their functions uses and biotic and abiotic stresses.
	First	AG-105	Rural Sociology and Educational Psychology	CO1 To Understand and analyze social, economic and political aspects of rural society.
				CO2 To Understand the changes that are taking place in rural society.
				CO3 To Understand the psychological concepts and Rural leadership.
				CO4 To understand basic rural institution and their role.
				CO5 To be able to demonstrate nature, subject-matter and importance of studying Rural Sociology.
				CO6 The learners are expected to develop expertise on different concepts and issues of rural sociology and educational psychology.
	First	AG 106	Introduction to Forestry	CO1 Students will understand and recognize various harvesting, transportation, and processing systems used in the management of forest resources and production of forest products
				CO2 Students will understand develop and evaluate management plans with multiple objectives and constraints.
				CO3 Students will learn how to develop and apply silvicultural prescriptions appropriate to management objectives.
				CO4 Students will understand analyze forest inventory information and project future forest, stand, and tree conditions.
				CO5 Students will demonstrate a familiarity with silvicultural terminology and be able to discuss practical application of regeneration techniques, intermediate treatments, and alternative silvicultural systems.
	First	AG 107	Introduction Animal Husbandry	CO1 To understand the importance and contribution of livestock in the state and national economy.
				CO2 Students will be able to understand the mechanisms and role of reproductive physiology in livestock production.
				CO3 Students will understand the application of modern animal production technologies and management practices impact the production facilities, the communities and the world.
				CO4 To have minimum basic understanding of different disease encountered in the farm animal and poultry and their preventive and control measures.
				CO5 Students will able to apply concepts of breeding, physiology, nutrition, herd-health, economics and management into practical and profitable animal production programs.
				CO6 To make students practically stronger to undertake entrepreneurship in the livestock and poultry sector.
	First	AG 108	Comprehension Communication Skill in English	CO1 Student will able to understand the functional aspects of english grammar.
				CO2 The course will acquaint students with the common english sentence structures, enable them to form new sentences and detect common errors.







Level	AG Code	Course Title	Learning Outcomes
		Comprehension Communication Skill in English	CO3 Student will understand the different styles of reading and develop their English comprehension. CO4 Student will be able to write application and report. It will develop written communication skills of the students. CO5 To increase the vocabulary of students and develop their understanding of English.
First	AG 109	Agriculture Heritage	CO1 To know about Ancient Agricultural Practices & its relevance to modern agriculture practices. CO2 To understand Our Journey (Developments) in Agriculture and Vision for the Future. CO3 To understand our traditional technical knowledge.
First	AG 110	General Agriculture I	CO1 To understand about Indian Agriculture and importance, present status, scope and future prospect. CO2 Students will apply his understanding in plant propagations, harvest and management. CO3 To understand about physical and chemical properties of soil and their effect on plant's health. CO4 To understand the knowledge of Plant Pathology.
First	AG 111	Introductory Biology	CO1 The student will be able to read, understand, and critically interpret the primary biological literature in his/her area of interest. CO2 The student will be able to design, conduct, analyze, and communicate (in writing and orally) biological research. CO3 The student will recognize and be able to apply basic ethical principles to basic and applied biological/biomedical practice and will understand the role of biological/biomedical science, scientists, and practitioners in society. CO4 The student will be able to explain the process of organic evolution and its underlying principles and mechanisms. CO5 The student will be able to explain the fundamental biological processes of metabolism, homeostasis, reproduction, development, and genetics, and the relationships between form and function of biological structures at the molecular, cellular, organismal, population, and
First	AG 112	General Agriculture II	CO1 To understand the importance and contribution of livestock in the state and national economy. CO2 To understand the importance of farm power and machinery. CO3 To understand about the various implements used in agriculture farm for various purposes. CO4 To identify elements of business success in agriculture as well as elements that determine economic role of agriculture in national economy.
First	AG 113	Elementary Math	CO1 To understand of basic concepts of statistics and applied mathematics. CO2 To analyse the data using various statistical test like Z- Test, T-Test, F- Test, Chi- Square Test. CO3 To take appropriate decision by applying the concepts of analytics and experimental design. CO4 The students to make their experimental designs, statistical analysis, and error estimation etc. for their research work. CO5 To compute various measures of central tendencies, dispersion, probability, sampling techniques, differentiation and their implementation in solving the numerical problems.
First	AG 114	NSS	CO1 To uphold the value system based on the cultural, social, political and moral bases of Indian society. CO2 Identify and solve the major social and environmental issues/challenges and equip the classroom learning to face those challenges. CO3 Develop teacher competence, sensitivity and teacher motivation.
Second	AG 201	Fundamentals of crop physiology	CO1 Role of crop physiology in crop health. CO2 Identification of deficiency symptoms of nutrients. CO3 To understand the metabolic and synthetic pathway of biomolecules. CO4 To know the difference between C3, C4 and CAM plant. CO5 The students will understand various aspects of stress physiology such as physiological and molecular basis of abiotic stress tolerance in plants. CO6 To understand the importance of growth hormone in Agriculture.
Second	AG 202	Fundamentals of plant biochemistry	CO1 To know the role of crop physiology in crop health. CO2 To be able to identify deficiency symptoms of nutrients. CO3 To understand the metabolic and synthetic pathway of biomolecules. CO4 To know the difference between C3, C4 and CAM plant. CO5 The students will understand various aspects of stress physiology such as physiological and molecular basis of abiotic stress tolerance in plants. CO6 To understand the importance of growth hormone in Agriculture.
Second	AG 203	Fundamentals of entomology	CO1 To understand the knowledge of Insects. CO2 To understand about the insects morphology, anatomy, sense organs. CO3 To understand general introduction of phylum Arthropoda, its various classes & their character with reference to class-Insecta. CO4 To understand the pre development & post embryonic development. CO5 The students will be able to get acquainted with the different techniques of management of crop pest in an integrated way. CO6 To understand the markets and their role.





Second	AG 204	Fundamentals of agricultural economics	CO2 To understand the market agents and controlled market
			CO3 To understand the problems of marketing of Agriculture produce.
			CO4 To gain fundamental understanding of demand and supply of a commodity.
			CO5 To understand about importance of cooperative system and corporate Banks
Second	AG 205	Principles of organic farming	CO1 To understand Initiatives taken by Government for organic produce.
			CO2 To understand role of NGOs in producing organic products.
			CO3 To know about Selection of crops and varieties for organic produce
			CO4 To know the procedure of Certification of organic produce.
Second	AG 206	Fundamentals of plant pathology	CO1 To understand the knowledge of Plant Pathology.
			CO2 To understand the reasons of plant pathogens.
			CO3 To understand the pathogen fungi and classification.
			CO4 To understand the pathogen bacteria and morphology, reproduction and role of causes the diseases.
Second	AG 207	Production technology of vegetables and spices	CO1 Students will understand practical knowledge on specialized production techniques of vegetables and spices.
			CO2 Students will understand Importance of vegetables & spices in human nutrition improved and national economy.
			CO3 Students will know about quality requirement and production and techniques.
Second	AG 208	Fundamentals of agricultural extension education	CO1 To understand of the rural development schemes.
			CO2 To understand of the problems of rural development.
			CO3 To understand different methods for transfer of agricultural technology.
			CO4 To understand of aids for extension activities as projector, display board, field demonstrations.
			CO5 To be able to create plan for developmental activities.
Second	AG 209	Diary processing and safety issues	CO1 To determine the relative importance of attributes of food safety improvement in the production chain of fluid pasteurized milk.
			CO2 To know about methods for improving milk safety in smallholder dairying. Students will understand about traditional systems of cattle and concepts of farming.
			CO3 To understand about general classification, characteristics, scope of microbes in dairy industry.
			CO4 To understand the role of milk in transmission of disease, management practices and regulations to ensure safe dairy products.
Second	AG 210	Human values & ethics	CO1 To give basic insights and inputs to the student to inculcate Human values to grow as a responsible human being with proper personality.
			CO2 To instill professional Ethics in the student to maintain ethical conduct and discharge their professional duties.
			CO3 To understand the difference between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc.
			CO4 To understand the role of a human being in ensuring harmony in society and nature.
			CO5 To distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.
Third	AG301	Crop Production Technology-I (Kharif Crops)	CO1 The students will be able to know about origin, geographical distribution, and economic importance of Kharif crops
			CO2 To be able to know about Soil and climatic requirements, varieties, cultural practices and yield of Kharif crops.
			CO3 To Analysis of comparative benefits of the different kharif crops
			CO4 To understand Constraints in production of oilseeds and pulses maybe identified through course content.
			CO5 To understand Production technology of kharif cereals and millets fulfill the need of human consumption and milch cattle
Third	AG302	Practical Crop Production -I	CO1 Students will be acquainted with the knowledge of profitable crop production technology.
			CO2 Students will be able to understand about ruminative crop production techniques.
			CO3 It helps to adopt diversified farming system according to available farming situation.
			CO4 It will assist to encourage the sustainable agriculture system.
			CO5 To understand the Profitable based farming system that we can adopt.
Third	AG303	Fundamentals of Plant Breeding	CO1 To be able to establish the commercial plant breeding company to develop new superior crop varieties.
			CO2 To be able to develop the insect and disease resistant varieties for environment friendly management of disease and insect.
			CO3 To be able to serve the quality food in the market by developing high nutritive varieties.
			CO4 To understand how to increase the farm yield to get higher income on farm by developing higher yield crop varieties.
			CO5 To be able to start a consultant company to guide & supply the better varieties to the farmers.
Third	AG304	Agricultural Microbiology	CO1 To understand the basic microbial structure, function and study the comparative characteristics of prokaryotes and eukaryotes.
			CO2 To know the various Physical and Chemical growth requirements of bacteria
			CO3 To impart knowledge about production of beneficial bacteria.
			CO1 To understand the broad feature of Indian financial institutions with instruments to control credit in the country.
			CO2 To be able to narrate the kinds and components of money with its regulatory system. Be aware of the functions, objectives and limitations of commercial bank.



**B.Sc. Agriculture (Hons.)**

Third	AG305	Agriculture Finance & Co-operation	CO3	To identify the existence and development of non-banking financial institutions, know the important role of mutual fund, LIC investment companies etc. Utilize and effectively participate in the development process.
			CO4	To understand the macroeconomics aspects of the economy as they affect the agricultural sector.
			CO5	To be apply economics principles to understand the conduct and performance of the agricultural industry.
Third	AG306	Farm Machinery & Power	CO1	To know about various sources of farm power and their uses.
			CO2	To know about working of IC Engines and their uses in modern equipments.
			CO3	To understand various parts of tractors and their mechanism.
			CO4	To understand the financial aspects of using farm power.
			CO5	To know about the various implements used in agriculture farm for various purposes.
Third	AG307	Principals of Integrated Disease Management	CO1	Student will know importance of sign and symptoms for detection of pathogens and disease.
			CO2	Student acquire the knowledge of Integrated methods of disease management.
			CO3	To Learn about biological and chemicals in disease management.
			CO4	To understand Insect Vectors transmitting plant diseases.
			CO5	To gain understanding of Insect Control Methods.
Third	AG308	Environmental Studies and Disaster Management	CO1	To gain knowledge on Environment, its structure, climate change, sustainable development, disaster management, different type of diseases and public health management.
			CO2	To develop an understanding on the Environment, ecosystem, biogeochemical cycle, environmental pollution and capability to identify relevant environmental issues, analyse the various underlying causes, evaluate the practices and policies, and develop framework to make informed decisions.
			CO3	To be able to develop an objective view on population ecology, population growth and controls, climate change and sustainable development goals.
			CO4	To understand the concept of disaster management, vulnerability, assessment and risk analysis, institutional framework, preparedness measures and survival skills.
			CO5	To apply proficiency in analytical methods, critical thinking, communication, and leadership skills sufficient to make a contribution in environmental and related fields.
			CO6	To analyse critical issues in public health management, communicable and non-communicable disease, life style management, transmission of epidemic-pandemic diseases and its prevention. Learner will enable to understand the role of different public sectors in managing health disaster.
Third	AG309	Statistical Methods	CO1	To familiarize with some basic concepts in statistics.
			CO2	To understand and familiarize elementary statistical methods of analysis of data viz. Measures of Central Tendency, Dispersion, Moments, Skewness, and Kurtosis and to interpret them.
			CO3	To Analysis data pertaining to attributes and to interpret the results.
Third	AG310	Fundamentals of soil water conservation	CO1	To understand the principles and concepts of soil and water conservation engineering and the importance of conservation practices in agricultural systems.
			CO2	To gain knowledge about erosion processes, soil erosion types, and factors affecting soil erosion in agricultural landscapes.
			CO3	To familiarize with various soil and water conservation techniques and structures used in agricultural land.
			CO4	To learn the design principles and criteria for different soil and water conservation structures and techniques.
Third	AG311	Dairy Science	CO1	To get comprehensive understanding of dairy production, processing, and preservation techniques
			CO2	To get Proficiency in quality control and food safety practices specific to the dairy industry
			CO3	To be ability to operate and maintain dairy machinery and equipment
			CO4	To gain knowledge of dairy product development, packaging, and marketing strategies
			CO5	To understand the economic and environmental aspects of the dairy sector
Third	AG312	Fundamentals of entomology-II	CO1	To understand ecology and environmental factors regulating insect population dynamics.
			CO2	To able to perform pest surveillance and forecasting.
			CO3	To understand the concepts, principles, aims, and tools of IPM.
			CO4	To understand the concepts of insect resistance and resurgence and their management.
			CO5	To understand Insecticide act, and perform spraying techniques and safety uses of pesticides.
Fourth	AG401	Crop Production Technology II (Rabi Crops)	CO1	To know the Origin, geographical distribution, economic importance, soil and climatic requirements, varieties, cultural practices and yield of rabi crops
			CO2	To identify weeds in rabi season crops.
			CO3	To understand the yield attributing characters of kharif crops and Estimate yield of Rabi crops.
Fourth	AG402	Practical Crop Production –(Rabi Crops)	CO1	Students will be acquainted with the knowledge of profitable crop production technology.
			CO2	Course content will help to students about ruminative crop production techniques.
			CO3	It helps to adopt diversified farming system according to available farming situation.







			CO4	It will assist to encourage the sustainable agriculture system.
			CO5	Profitable based farming system can we adopted with the help of course content
Fourth	AG403	Principle of Seed Technology	CO1	Student should be able to understand the concept of seed technology.
			CO2	Student should be able to identify seeds identification based on morphological characters.
			CO3	Student should get knowledge about reproduction in plants, seed structure and development.
			CO4	To understand the theoretical orientation of seed development.
			CO5	To familiarize with Seed Technology and morphology of seed and its development.
Fourth	AG404	Problematic Soil & their Management	CO1	To be able to understand about waste land and problematic soils in India and management of the soils.
			CO2	Students will be able to know about the different reclamation and management practices for the development of the soils.
			CO3	To understand different factors responsible for saline, sodic and acidic soils and their properties.
			CO4	To be able to use the fundamentals of soil science disciplines for the reclamation of degraded soils.
			CO5	To be able to demonstrate fundamental knowledge to identify problematic soils and associated problems and identify processes resulting in deterioration of soil physical and chemical properties.
Fourth	AG405	Fandamental of Plant Biotechnology	CO1	To understand the concepts and techniques of plant biotechnology and their applications in crop plants.
			CO2	To understand the basics principles of plant sciences and molecular biology and their integration towards trait improvement in plants.
			CO3	To have a thorough knowledge of laboratory techniques used in plant biotechnology.
			CO4	To understand the industrial applications of biotechnology in developing new products.
			CO5	To acquire experimental skills to conserve plants for sustainability
Fourth	AG406	Renewable Energy & Green Tech.	CO1	To understand the need of energy conversion and the various methods of energy storage
			CO2	To identify Winds energy as alternate form of energy and to know how it can be tapped
			CO3	To explain bio gas generation and its impact on environment
			CO4	To understand the geothermal & Tidal energy, its mechanism of production and its applications
			CO5	To illustrate the concepts of Direct Energy Conversion systems & their applications.
Fourth	AG407	Production Tech. of Ornamental Crops & MAP	CO1	To learn different production technology for ornamental Crops.
			CO2	To understand about the Importance and scope of Ornamental Crops, MAPs and Landscaping. To learn the techniques in Landscaping.
			CO3	To gain knowledge about production technology of cut flower, loose flower, medicinal and aromatic plants.
			CO4	To know about the uses of annuals, biennials, perennials tree, shrub, climbers and potted plants in landscaping.
Fourth	AG408	Entrepreneurship Development & Business Communication	CO1	To understanding basic concepts in the area of entrepreneurship
			CO2	To understanding the role and importance of entrepreneurship for economic development
			CO3	To understanding the stages of the entrepreneurial process and the resources needed for the successful development of entrepreneurial ventures
			CO4	To develop and strengthen the entrepreneurial quality, i.e. motivation or need for achievement.
			CO5	To analyze environmental set up relating to small industry and small business
Fourth	AG409	Introductory Agro- Meteorology & Climate Change	CO1	To understand roles of agro meteorology in agriculture and its relation to other areas of agriculture.
			CO2	To develop weather based agro advisories to sustain crop production utilizing various.
			CO3	To study about different climatic factors affecting crop growth and development
			CO4	To make proper understanding on crop-weather relationship.
			CO5	To assess productivity level of major crops during future climate-change scenario.
Fourth	AG410	Agri Informatics	CO1	To be able to understand analogy of computer.
			CO2	To know the use of IT application and different IT tools in Agriculture
			CO3	To know about the use of Decision support systems, Agriculture Expert System and Soil Information Systems in Agriculture
			CO4	To acquaint the students with introduction to computer & operating system.
			CO5	To understand the data presentation, interpretation and graph creation.
Fourth	AG411	Poultry Production & Management	CO1	To know about the construction of hatchery
			CO2	To gain knowledge about different sections / rooms in hatchery for efficient operations
			CO3	To be able to understand the handling and care of hatching eggs
			CO4	To understand different procedures followed in incubation of chicken eggs in hatchery
			CO5	To gain knowledge of handling and Care of hatched chicks
Fifth	Ag 501	Rain Fed & Dry Land Agriculture	CO1	Student can able to understand about rainfed agriculture and its introduction, problem and prospects in India.
			CO2	Student can able to understand objective, principles and component of watershed management.
			CO3	To know about conservation of soil by adopting latest soil conservation techniques will help in obtaining higher production of rainfed crops.
			CO4	To understand conservation of soil by adopting latest soil conservation techniques will help in obtaining higher production of Rainfed crops
			CO5	To know about rainfall water can be use for a larger area by suitable watershed management techniques





Fifth	Ag 502	Crop Improvement -I (Kharif Crops)	CO1	Students learn importance of wild relative to produce new varieties of kharif crop.
			CO2	Learner learns Gene preservation method for further use to improve kharif crops.
			CO3	Learner learns to applies breeding method to improve kharif crops.
			CO4	Learner learns identification of resistance gene relate to kharif crop with high yield
			CO5	Learner learns new genetic approaches to achieve a definite ideotype of kharif crop.
Fifth	Ag 503	Pests of Crops & Store Grain & their management	CO1	Familiarized with identification of different insect pest of field, horticulture, ornamentals, vegetables and stored grains at the field level.
			CO2	Understand how insects affect animal and Plant health and agricultural production, and be able to safely manipulate populations of beneficial and destructive species in habitats and in production agro-ecosystems with minimal environmental impact.
Fifth	Ag 504	Agriculture Marketing, Trade & Prices	CO1	The course provides ability to understand sales promotion and management in agricultural marketing, e-marketing, future marketing and role of contract farming, SHG, marketing information, marketing intelligence in agricultural marketing.
			CO2	Enable students to gain knowledge on agricultural marketing, challenges and prospects for improving agricultural marketing system.
			CO3	To understand how markets system affect farmers, consumers and intermediaries.
			CO4	Develop strategies through which a dynamic market system will respond to create win-win situation for all.
Fifth	Ag 505	Protected Structure & Secondary Agriculture	CO1	To get knowledge about green house technology, types of green houses and construction of green houses.
			CO2	Course will give the knowledge of Green house equipments, materials of construction for traditional and low cost green houses
			CO3	This course will help the students to learn about Irrigation systems used in greenhouses, shade net house in protected cultivation.
			CO4	By this course student get the concepts of cleaning and grading Moisture measurement.
			CO5	Students will be able to understand the Material handling equipment, principle and working.
Fifth	Ag 506	Disease of and Horticulture crops & their Management-I	CO1	The course will acquaint students with the general understanding of Plant diseases.
			CO2	To understand how to control the disease and management of the diseases of crops.
			CO3	Student will be able to apply their understanding in identifying of disease symptoms, pathogens
			CO4	To be able to understand the disease and about plant quarantine.
Fifth	Ag 507	Production Technology of Fruit & Plantation Crops	CO1	To gain understanding of different manure and fertilizers used in different crops according to soil condition.
			CO2	To understand essentiality of plant nutrients and mechanism of nutrient transport to plant.
			CO3	Students will evaluate the deficiency symptoms of plant nutrients.
			CO4	To be able to establish soil testing laboratory in future as an entrepreneur.
Sixth	Ag 508	Communication Skill & Personality Development	CO1	To provide students with the basic knowledge of seed formation, development, and morphology, seed chemical composition.
			CO2	Identify the elements of success of entrepreneurial ventures,
			CO3	Evaluate the effectiveness of different entrepreneurial strategies,
			CO4	Explain the importance of marketing and management in small businesses venture,
			CO5	Interpret their own business plan
Sixth	Ag 509	Intellectual Property Right (IPR)	CO1	Skill to understand the concept of intellectual property rights.
			CO2	Develops procedural knowledge to Legal System and solving the problem relating to intellectual property rights
			CO3	Skill to pursue the professional programs in Company Secretaryship, Law, Business, Agriculture, International Affairs, Public Administration and Other fields.
			CO4	Establishment of Legal Consultancy and service provider.
Sixth	Ag 510	Principles Food Science & Nutrition	CO1	Students able to identify and explain nutrients in foods and the specific functions in maintaining health.
			CO2	Students able to know the important pathogen and spoilage microorganism in foods.
			CO3	They can know about basic principles and practices of cleaning and sanitation in food preparation operation.
			CO4	Student can critically evaluate information on food science and nutrition issues appearing in the popular press.
Sixth	Ag 511	Geo-Informatics & Nano Technology	CO1	The concept of "doing the right thing in the right place at the right time" has a strong intuitive appeal which gives Students the ability to know about all operations and crop inputs more effectively.
			CO2	Students able to understand more effective use of inputs results in greater crop yield and/or quality, without polluting the environment.
			CO3	Encourage the students to study of spatial and temporal variability of the input parameters using primary data at field level.



				CO4	Creating awareness amongst farmers about consequences of applying imbalanced doses of farm inputs like irrigation, fertilizers, insecticides and pesticides.
	Sixth	Ag 55	Agri-Business Management	CO1	To understand the macroeconomics aspects of the economy as they affect the agricultural sector.
				CO2	To explain the broad feature of Indian financial institutions with instruments to control credit in the country.
				CO3	To Understand the conditions of financial markets and its impact in the economy.
				CO4	To be able to apply economics principles to understand the conduct and performance of the agricultural industry.
				CO5	To be able to explain the functions, objectives and limitations of commercial bank and other financial institution.
	Seventh	D-791	Rainfed Agriculture & Watershed Management	CO1	Student can able to understand about rainfed agriculture and its introduction, problem and prospects in India.
				CO2	Student can able to understand objective, principles and component of watershed management.
				CO3	To know about conservation of soil by adopting latest soil conservation techniques will help in obtaining higher production of rainfed crops.
	Seventh	D-792	Silviculture and Agro forestry	CO1	To be able to understand about Agro forestry and Silviculture, objectives and potential.
				CO2	To know about different Agro-forestry Systems, Subsystem, Practices, AFS Classification, Agro-forestry Systems on nature of Components.
				CO3	To Impart knowledge about forest, status of Indian forest and their role in farming system.
				CO4	To analyze the distinction between Agro forestry and Social Forestry.
	Seventh	D-793	Production technology of medicinal and aromatic crops	CO1	To gain understanding of production technology for various important medicinal crops.
				CO2	To gain understanding of the study of herbal industry for medicinal crops
				CO3	To able to understand the systems of cultivation and organic production and able to classify the medicinal crops,
				CO4	To explain the Indian system of medicine, indigenous Traditional Knowledge, IPR issues.
				CO5	To be able to identify various types of problematic soils in India, along with their occurrence and formation.
	Seventh	D-794	Management of Problems soil and water	CO1	To be able to identify various types of problematic soils in India, along with their occurrence and formation.
				CO2	To understand about the management strategies adopted for the reclaiming of salt-affected soil, waterlogged soil, and eroded soils.
				CO3	To able to understand distribution of wasteland in India and importance of their management.
				CO4	Students will be able to identify the causes and factors that contribute to wasteland conversion in India.
				CO5	To be able to understand the management of soil in Arid and Semi-Arid region of India.
	Seventh	D-795	Dairy chemistry and animal nutrition	CO1	To be able to understand about milk composition and milk preservation.
				CO2	To gain understanding about milk chemistry.
				CO3	To be able to classify animal nutrition on the basis different ways.
				CO4	To understand the metabolism of different biochemicals.
				CO5	To understand role of micro molecules in animal feeding.
	Seventh	D-796	Computer application	CO1	To understand the basic concept of windows, operating system and various applications.
				CO2	To understand basic knowledge MS excel and their applications.
				CO3	To be able to understand the basic idea power point presentations and how to use it like creation of PPT on any topic.
				CO4	To understand the basic concept of windows, operating system and various applications.
	Eighth	D-891	Rural Agricultural Work Experience and Agro-industrial Attachment (RAW & AIA)	CO1	Students will get an on campus training from various faculties before step into the village attachment and Agro-industrial attachment.
				CO2	To enable the students to understand the issues related to farming and rural development in a natural setting on real-time basis.
				CO3	The course also provides opportunities for the students to understand and learn about the functioning of the extension organizations.
				CO4	Course provides opportunities for the students to attach with the Agri related industries and make them know about the functioning them.
Bachelor of Commerce (Honors)	First	111	Financial Accounting	CO 1	To Understand the procedure of accounting, final account and Depreciation concept.
				CO 2	To Understand the concept of negotiable instruments
				CO 3	To Apply the various approaches regarding bank reconciliation statement
				CO 4	To Understand the basic concept for accounting of partnership firms.
				CO 5	To Understand the Basic concept of management.
Bachelor of Commerce (Honors)	First	112	Principles of Management	CO 1	To Understand basic functions of management.
				CO 2	To Apply the management functions in integrated prespective.
				CO 3	To Apply the theories of motivation and Leadership Styles
				CO 4	To understand the basic concepts of business environment.
Bachelor of Commerce (Honors)	First	113	Business Environment	CO 1	To Understand the various economic systems & the scope of planning with Indian perspective.
				CO 2	To understand the roles of government and various sectors.
				CO 3	To understand the international Business Environment.
				CO 4	To apply socio-culture environment's factors that may impact businesses
				CO 5	To Understand the basic definitions and concepts of Elementary mathematics.
Bachelor of Commerce (Honors)	First	114	Business Mathematics	CO 1	To Apply the knowledge in mathematics (algebra, matrices, calculus) in solving business problems
				CO 2	To Understand the basic concepts of Financial Mathematics
				CO 3	To Analyze and demonstrate mathematical skills required in mathematically intensive areas in Economics & Business



Bachelor of Commerce (Honors)	Second	211	Business Organization	CO 1	To describe Secondary and Tertiary sector activities with reference to LPG .
				CO 2	To recognize Entrepreneurial opportunities in contemporary business environment.
				CO 3	To discuss various forms of business and to review various operational and functional aspects of business.
				CO 4	To explain various Management Thoughts and approaches to Management .
				CO 5	To identify various sources of business finance for different Tenure .
				CO 6	To discuss the various Stock Exchanges in India.
Bachelor of Commerce (Honors)	Second	212	Advanced Financial Accounting	CO 1	To Illustrate the accounting procedure for patents, copyright & Mining sectors sectors.
				CO 2	To Illustrate Multi-purpose Store and Franchisee Accounting mechanism.
				CO 3	To Implement the accounting procedure for Human Resource Accounting & Inflation.
				CO 4	To Implement the accounting procedure of Deferred Payment Systems.
Bachelor of Commerce (Honors)	Second	213	Business Entrepreneurship	CO 1	To Explain the basic concepts of entrepreneurship, & Role of Entrepreneur in economic growth.
				CO 2	To Explain the basic behavior of Entrepreneur w.r.t. change, innovation and society
				CO 3	To Demonstrate the ideas for promotion of new venture, & development of new business plans
				CO 4	To Interpret the various sources of finance as per the duration
				CO 5	To Estimate the requirement of growth i.e. capacity enhancement and expansion.
Bachelor of Commerce (Honors)	Second	214	Business Statistics	CO 1	To explain the basic concepts of business statistics.
				CO 2	To Interpret the business aspects using the concepts of Time-Series Analysis and Index Numbers.
				CO 3	To Illustrate various measures of central tendency & Dispersion, Correlation and their implication in business problems.
				CO 4	To Choose appropriate decisions by applying the Concept of Probability & Sampling
Bachelor of Commerce (Honors)	Third	311	Business Regulatory Framework	CO 1	To review basic concepts of Indian Contract Act 1872
				CO 2	To review the various types of contracts & special contracts
				CO 3	To review the basic concepts of sales of goods act 1930
				CO 4	To review the main provisions of consumer protection act 1986
				CO 5	To review the main provisions of Limited Liability Partnership Act 2008.
Bachelor of Commerce (Honors)	Third	312	Business Economics	CO 1	To explain the basic concepts of Economics, & its problems
				CO 2	To explain the law of demand & its elasticity
				CO 3	To explain the concept of utility of demand and consumer behavior
				CO 4	To explain the cost concepts and production function
				CO 5	To Illustrate the cost concept to determine the price in different market structures.
Bachelor of Commerce (Honors)	Third	313	Cost & Management Accounting	CO 1	To describe classification and installation of a costing system
				CO 2	To describe the elements of cost i.e. Material, Labour and Overheads
				CO 3	To Practice different methods of costing
				CO 4	To Practice the tools of budgetary control system
				CO 5	To Practice standard costing and marginal costing techniques
Bachelor of Commerce (Honors)	Third	314	Business Communication	CO 1	To explain processes of business communication and its barriers.
				CO 2	To Practice the Business Correspondence.
				CO 3	To explain the process of report writing and citation of literature.
				CO 4	To Practice Power Point Presentations
				CO 5	To Practice Electronic Business Communications like e-mail, messaging, video conferencing, social networking etc.
Bachelor of Commerce (Honors)	Fourth	411	Insurance & Risk Management	CO 1	To explain the working and functioning of Insurance Sector
				CO 2	To explain the fundamental principles of Insurance
				CO 3	To explain the legal aspects of various types of General Insurance
				CO 4	To explain "Risk Management Practices" for controlling loss
				CO 5	To apply the procedure to compute Insurance Premium
Bachelor of Commerce (Honors)	Fourth	412	Income Tax Law & Account	CO 1	To understand the basic concepts and definitions under the Income Tax Act, 1961
				CO 2	Explain the various deductions allowed from Gross Total Income & the rules to determine the residential status of assessee
				CO 3	To Acquire knowledge about Computation of Income under different heads of Income of Income Tax Act, 1961
				CO 4	Explain the rules for set-off & carry forward of losses.
				CO 5	Explain the procedure of assessment, payment and collection of tax. Practice the rules to compute Income Tax Liability & ITR filing.
Bachelor of Commerce (Honors)	Fourth	413	Company Law	CO 1	To Explain the concept , the regulatory aspects and the broader procedural aspects of Company, under Companies Act 2013
				CO 2	To Explain the basic legal documents and their usage essential for operations and management of company.
				CO 3	To review the various compliances of companies act.
				CO 4	To discuss the framework of dividend distribution.
				CO 1	To explain the concept and challenges of HRM
				CO 2	To understand HRP including its dimensions





Bachelor of Commerce (Honors)	Fourth	414	Human Resource Management	CO 3	To review various training and development methods
				CO 4	To evaluate performance appraisal and compensation techniques
				CO 5	To assess maintenance of employees and understand various contemporary issues in HRM
Bachelor of Commerce	First	C010101T	Business Organization	CO 1	To explain the concept of business and business organization.
				CO 2	To apply the knowledge on how to establish new business unit, plant location & plant layout of business units.
				CO 3	To Solve the problems in modern business.
				CO 4	To evaluate the concept of business combinations and its types so that its relevance could be understood.
Bachelor of Commerce	First	C010102T	Business Statistics	CO 1	To explain the basic concepts of business statistics.
				CO 2	To explain various analytical concepts of Business Statistics
				CO 3	To Illustrate various measures of central tendency & Dispersion, Correlation and their implication in business problems.
				CO 4	To analyze the business aspects using the concepts of Time-Series Analysis and Index Numbers.
				CO 5	To Propose appropriate decisions for business problems
Bachelor of Commerce	First	C010103T	Business Communication	CO 1	To explain basic concept of business communication and their barriers.
				CO 2	To apply the various aspect of verbal and non-verbal communication skills.
				CO 3	To apply the presentation and writing skills.
				CO 4	To compose appropriate organizational formats and channels used in business communication.
Bachelor of Commerce	First	Z010101	Food, Nutrition & Hygiene	CO 1	To explain the concept of Food, Nutrition and Hygiene
				CO 2	To review awareness of food hygiene regulations.
				CO 3	To identify awareness regarding the common health issues in society & have clarity on the special requirement of food during an illness
				CO 4	To Plan a diet for metabolic diseases based on the dietary modification.
				CO 5	To manage the component of food system and the relationships between nutritional health and food selection
Bachelor of Commerce	First	Q10033	Basic Economics	CO 1	To explain the Basic concepts of Economics, Demand Analysis & Elasticity
				CO 2	To review the Economic Systems
				CO 3	To explain the cost concepts and production function
				CO 4	To Illustrate the cost concept to determine the price in different market structures.
				CO 5	To Practice the methods to compute National Income
Bachelor of Commerce	First	V0001068	Introduction to Mutual Fund Part-I	CO 1	To Explain financial goals of investors on basis of different asset classes and risk involved with them
				CO 2	To describe mutual fund as an investment vehicle, its various types, and its evolution in India as an industry.
				CO 3	To review the structure of mutual fund industry, the concept of Asset Management Company (AMC) and its functioning.
				CO 4	To review the regulatory framework of mutual funds with emphasis on the role and functioning of AMFI
				CO 5	To review the role of SEBI in mutual fund sector, code of conduct and grievance redressal mechanism.
				CO 6	To Illustrate the skill set to build a career in mutual funds industry.
Bachelor of Commerce	Second	C010201T	Business Management	CO 1	To identify nature of managerial job in terms of principles, process, roles and evolution of Management.
				CO 2	To apply the basic functions of management and helping learners evolve an integrated perspective of the management functions.
				CO 3	To debate the various motivational theories and leadership styles that are going to be helpful in academics and industry.
				CO 4	To assess the environment of the organization.
Bachelor of Commerce	Second	C010202T	Financial Accounting	CO 1	To list Royalty, Insolvency Accounts and Insurance Claims and become competent to examine the related issues.
				CO 2	To outline the accounting procedure of Deferred Payment Systems.
				CO 3	To describe Accounting concepts and conventions, GAAP, Accounting Standards, Double Entry System and Final Accounts.
				CO 4	To illustrate formulation of financial statements as per Accounting Standards.
				CO 5	To solve Multi-purpose Store and Franchisee Accounting mechanism.
Bachelor of Commerce	Second	C010203P	Computerized Accounting	CO 1	To list the significance of Information Technology in Accounting.
				CO 2	To outline the integration of Accounting Information System (AIS) and Computer.
				CO 3	To illustrate the usage of computerised accounting software in generating various accounting statements and reports.
Bachelor of Commerce	Second	C010204T	Essentials of E-Commerce	CO 1	To explain the basic concept of E-Commerce
				CO 2	To review the prevailing E-Governance models
				CO 3	To Illustrate the B2C model of E-Commerce
				CO 4	To Illustrate the B2B model of E-Commerce
Bachelor of Commerce	Second	V0001069	Introduction to Mutual Fund Part-II	CO 1	To Explain financial goals of investors on basis of different asset classes and risk involved with them
				CO 2	To describe mutual fund as an investment vehicle, its various types, and its evolution in India as an industry.
				CO 3	To review the structure of mutual fund industry, the concept of Asset Management Company (AMC) and its functioning.
				CO 4	To review the regulatory framework of mutual funds with emphasis on the role and functioning of AMFI
				CO 5	To review the role of SEBI in mutual fund sector, code of conduct and grievance redressal mechanism.
				CO 6	To Illustrate the skill set to build a career in mutual funds industry.
				CO 1	To review the skill needed to assess the ill or injured person.





Bachelor of Commerce	Second	Z020201	First Aid & health	CO 2	To review skills to provide CPR to infants, children and adults.
				CO 3	To review the skills to handle emergency child birth
				CO 4	To discuss Basic sex education help young people navigate thorny questions responsibly and with confidence
				CO 5	To review the skills to gauge Mental Health status and Psychological First Aid
				CO 6	To explain natural changes of adolescence
Bachelor of Commerce	Third	C010301T	Company Law	CO 1	To Explain the concept , the regulatory aspects and the broader procedural aspects of Company, under Companies Act 2013
				CO 2	To Explain the basic legal documents and their usage essential for operations and management of company.
				CO 3	To review the various compliances of companies act.
				CO 4	To discuss the framework of dividend distribution.
Bachelor of Commerce	Third	C010302T	Cost Accounting	CO 1	To explain the concept of Cost Accounting and various elements of cost.
				CO 2	To illustrate the accounting of material, labour and overheads cost.
				CO 3	To illustrate the cost of products, jobs, contracts, processes and services.
				CO 4	To differentiate the cost accounting book keeping systems and reconciliation of cost and financial account profits
Bachelor of Commerce	Third	C010303T	Business Regulatory Framework	CO 1	To review basic concepts of Indian Contract Act 1872
				CO 2	To review the various types of contracts & special contracts
				CO 3	To review the basic concepts of sales of goods act 1930
				CO 4	To review the main provisions of consumer protection act 2019
				CO 5	To review the main provisions of Limited Liability Partnership Act 2008 & U.P. shops & commercial establishment act
Bachelor of Commerce	Third	V0001069	Introduction to Mutual Fund Part-II	CO 1	To Explain financial goals of investors on basis of different asset classes and risk involved with them
				CO 2	To describe mutual fund as an investment vehicle, its various types, and its evolution in India as an industry.
				CO 3	To review the structure of mutual fund industry, the concept of Asset Management Company (AMC) and its functioning.
				CO 4	To review the regulatory framework of mutual funds with emphasis on the role and functioning of AMFI
				CO 5	To review the role of SEBI in mutual fund sector, code of conduct and grievance redressal mechanism.
				CO 6	To Illustrate the skill set to build a career in mutual funds industry.
Bachelor of Commerce	Third	Q10033	Fundamentals of Indian Economy	CO 1	To Explain the present and future prospects of Indian Economy
				CO 2	To Explain the impact of 5 years plan on Indian Economy
				CO 3	To Explain the problems of Indian agriculture
				CO 4	To Explain the Importance of financial system for economy
Bachelor of Commerce	Third	Z030301	Human Values & EVS	CO 1	To explain the interplay of markets, ethics, and law.
				CO 2	To describe the challenges faced by individuals to counter unethical issues
				CO 3	To discuss the core concept of business ethics, anti-corruption & morally articulate solution to management issues
				CO 4	To discuss the sustainable development of better environment.
				CO 5	To explain the efforts taken by India, UN & other International bodies to save environment and sustainable development
Bachelor of Commerce	Fourth	C010401T	Income Tax Law & Account	CO 1	Explain the basic concepts of Income Tax Act & the rules to determine the residential status of assessee.
				CO 2	Explain income from different head of income & deductions allowed from Gross Total Income.
				CO 3	Explain the rules for set-off & carry forward of losses.
				CO 4	Explain the procedure of assessment, payment and collection of tax.
				CO 5	Practice the rules to compute Income Tax Liability & ITR filling.
Bachelor of Commerce	Fourth	C010402T	Fundamentals of Marketing	CO 1	Explain the basic concepts of marketing and consumer behavior
				CO 2	Explain the concept of segmentation, targeting & positioning of Product.
				CO 3	Describe the pricing method, policies and various tools of promotion
				CO 4	Describe the distribution channels like wholesale, retailing, logistics & social media
Bachelor of Commerce	Fourth	C010403P	Digital Marketing	CO 1	Explain the concept of digital marketing channels & plans
				CO 2	Practice CRM using web analytics and social media
				CO 3	Design the SEO content, & googleadwords account
				CO 4	Design Youtube advertising and budgeting
Bachelor of Commerce	Fourth	C010404T	Fundamentals of Entrepreneurship	CO 1	To describe concept of entrepreneur, entrepreneurship, using real life examples.
				CO 2	To describe the government policies for the development of entrepreneurship
				CO 3	To explain the various method for the promotion of a venture
				CO 4	To explain the role of financial institutions in financing of MSME
Bachelor of Commerce	Fourth	Z040401	Physical Education & Yoga	CO 1	To Explain the basic concept of Physical Education
				CO 2	To Explain fitness, wellness, weight management etc.
				CO 3	To Explain the relation of yoga with mental health
				CO 4	To Practice traditional games of India
				CO 5	To Practice various Yoga asanas & Aerobics





Bachelor of Commerce	Fourth	V0001070	Introduction to Share Market Part-I	CO 1	To Explain the key terminologies and concepts related to the share market
				CO 2	To explain the functions of major stock exchanges globally.
				CO 3	To explain various indicators to catch trends and patterns.
				CO 4	To explain the financial news and reports to make informed investment decisions w.r.t. risk and return characteristics of market
				CO 5	To Analyze the different investment strategies, such as value investing versus growth investing.
Bachelor of Commerce	Fifth	C010501T	Corporate Accounting	CO 1	To Illustrate the accounting treatment of issue, forfeiture, re-issue Shares, debentures & Redemption of Preference shares & Debentures.
				CO 2	To Illustrate the general rules for preparation of final accounts & statement of Profit & Loss.
				CO 3	To Illustrate the accounting treatment of holding and subsidiary company.
				CO 4	To Illustrate the accounting treatment Amalgamation of companies.
Bachelor of Commerce	Fifth	C010502T	Goods and Service Tax	CO 1	To explain the history of Indirect tax in India & current scenario
				CO 2	To explain some fundamental point of GST like TOS, POS and value of supply.
				CO 3	To Interpret the Payment, Adjustment and return filing rules of GST.
				CO 4	To explain the procedure of new registration.
				CO 5	To explain the procedure for accounting of Invoice, Audit & Penalties
Bachelor of Commerce	Fifth	C010503T	Business Finance	CO 1	To explain the basic decisions of business finance i.e. Investing, Financing & Dividend
				CO 2	To explain the sources of funds for different tenure
				CO 3	To explain the basic concept of time value of money
				CO 4	To explain the structure of capital market and money market in India
				CO 5	To demonstrate the effects of cost of capital on capital structure
Bachelor of Commerce	Fifth	C010505T	Money Theory & Banking in India	CO 1	To explain the role of money in an economy
				CO 2	To review the basic structure of Indian Banking system
				CO 3	To explain the functions, instruments of monetary and credit control exercised by RBI
				CO 4	To explain the structure of development banks and other NBFIs in Indian Economy
Bachelor of Commerce	Fifth	Z050501	Analytical Ability & Digital Awareness	CO 1	To identify the analogy, number system, set theory, number system and puzzles.
				CO 2	To explain the basics of web surfing and cyber security
				CO 3	To Practice Syllogism, figure problems, critical and analytical reasoning
				CO 4	To Practice with word processing application and worksheet
Bachelor of Commerce	Sixth	C010601T	Accounting for Managers	CO 1	To Explain the basic concept of Management Accounting
				CO 2	To Explain the basic concept of Financial Statement analysis
				CO 3	To Apply the Tools of Financial statement analysis
				CO 4	To apply the Cost Controlling tools like budgetary control and standard costing
Bachelor of Commerce	Sixth	C010602T	Auditing	CO 1	To Explain the basic concepts of auditing.
				CO 2	To Explain the practicality of standards of auditing.
				CO 3	To Explain concepts of audit for limited companies.
				CO 4	To Explain the powers, duties, liabilities of an auditor.
				CO 5	To Explain the various types of audit such as internal audit, cost audit, tax audit & statutory audit
Bachelor of Commerce	Sixth	C010604T	Financial Institutions & Marketing	CO 1	To understand the structure and functions of financial markets, including primary and secondary markets.
				CO 2	To understand the concept of new issue market, and role of various players involved.
				CO 3	To understand the role and functions of Stock Exchanges, & functioning of the intermediaries.
				CO 4	Understand the regulatory bodies as SEBI, NCLT, NCLAT & mechanisms aimed at safeguarding investors
Bachelor of Commerce	Sixth	C010606T	Business Ethics & Corporate Governance	CO 1	To explain the ethics, moral and values in business and management
				CO 2	To explain contemporary culture and ethical value system
				CO 3	To explain contemporary laws and ethics for business and society
				CO 4	To explain corporate governance w.r.t. global issues.
Bachelor of Commerce	Sixth	Z060601	Communication Skills & PD	CO 1	To understand the concept of Personality.
				CO 2	To learn what Personal Grooming pertains.
				CO 3	To learn to make good resume and prepare effectively for an interview.
				CO 4	To learn to perform effectively in group discussions.
				CO 5	To explore communication beyond language.
				CO 6	To learn to manage oneself while communicating.
				CO 7	To acquire good communication skills and develop confidence.
Bachelor of Commerce	Sixth	C010607R	Minor Research Project	CO 1	To Gain knowledge of issues & challenges of Industry
				CO 2	Learn to present report of the selected industry
Bachelor of Business				CO 1	To understand the concepts related to business management.
				CO 2	To understand the complexities associated with management and integrate the learning in handling these complexities.

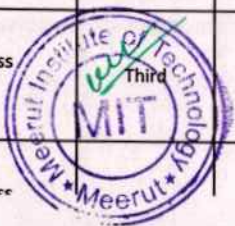


Bachelor of Business Administration	First	BBA-101	Fundamentals of Management	CO 3	To apply the roles, skills and functions of practical business.
				CO 4	To apply the various motivational theories and leadership styles in business management.
				CO 5	To analyze effective application of fundamental knowledge to solve organizational problems and develop optimal managerial decisions.
Bachelor of Business Administration	First	BBA-102	Organizational Behavior	CO 1	To understand the nature, functioning and design of organization as social collectives.
				CO 2	To understand the cause and effect of different behaviors in an organization.
				CO 3	To analyze the behavior of individual and groups in an organization.
				CO 4	To contrast the reciprocal relationship between the organizational leaders and their subordinates.
				CO 5	To develop conceptual understanding of change and how to implement it.
Bachelor of Business Administration	First	BBA-103	Managerial Economics	CO 1	To apply the various economics principles to make effective economic decisions under conditions of risk and uncertainty.
				CO 2	To analyze the concepts of demand & supply for various changing situations in industry for better utilization of resources.
				CO 3	To evaluate the different market structure and pricing strategies.
				CO 4	To analyze the macroeconomic concepts like business cycle & how it affect the business & economy.
				CO 5	To make the students familiar with BOP & inflation.
Bachelor of Business Administration	First	BBA-104	Accounting & Financial Analysis	CO 1	To understand accounting concepts, principles, & conventions for routine monetary transaction.
				CO 2	To understand 'International & Indian Accounting Standards'.
				CO 3	To apply the concept to prepare financial statements and cash flow in accordance with GAAP.
				CO 4	To analyse, interpret and communicate the information contained in basic financial statements.
				CO 5	To know the concept and preparation of 'Fund Flow Statement'.
Bachelor of Business Administration	First	BBA-105	Business Law	CO 1	To understand basic aspect of Indian Contract Act and Sale of Good Act.
				CO 2	To understand basic aspect of Partnership Act.
				CO 3	To understand basic aspect of Negotiable instrument Act.
				CO 4	To analyze various types of contracts and different forms of negotiable instrument.
				CO 5	To familiarize the students with application of business laws.
Bachelor of Business Administration	First	BBA-106	Business Organization & Ethics	CO 1	To understand the basic of business essentials and ethical practices of business.
				CO 2	To understand the process of developing new business including plant location, layout and promotion of business.
				CO 3	To understand the various forms of business organisation.
				CO 4	To know the social responsibility of business.
				CO 5	To make the students aware with various philosophies of business.
Bachelor of Business Administration	First	BBA-008	Environmental Studies	CO 1	To understand the basics aspects associated with structure and function of ecological systems.
				CO 2	To understand the importance of natural resources and the need of their conservation for a sustainable environment.
				CO 3	To understand their roles, responsibilities as a citizen, consumers and environmental actors in a complex interconnected world.
				CO 4	To analyze the impact of human and pollution on environment.
				CO 5	To write and communicate effectively about environmental issues and problems.
Bachelor of Business Administration	Second	BBA-201	Quantitative Techniques for Business	CO 1	To gain knowledge of basic concepts of business statistics.
				CO 2	To inculcate practical understanding of various analytical tools.
				CO 3	To compute various measures of central tendency & Dispersion, Correlation and their implication in business problems.
				CO 4	To analyze the business aspects using the concepts of Time-Series Analysis and Index Numbers.
				CO 5	To take appropriate decisions by applying the concept of basic probability.
Bachelor of Business Administration	Second	BBA-202	Business Communication	CO 1	To understand basic concept of business communication and their barriers.
				CO 2	To apply the various aspect of verbal and non-verbal communication skills.
				CO 3	To analyze critical thinking by designing and developing presentation and writing skills.
				CO 4	To create appropriate organizational formats and channels used in business communication.
				CO 5	To understand the various modern forms of business.
Bachelor of Business Administration	Second	BBA-203	Human Resource Management	CO 1	To develop the understanding of the concept of human resource management and to understand its relevance in organizations.
				CO 2	To develop necessary skill set for application of various HR issues
				CO 3	To analyse the strategic issues and strategies required to select and develop manpower resources.
				CO 4	To integrate the knowledge of HR concepts to take correct business decisions.





Bachelor of Business Administration	Second	BBA-204	Marketing Management	CO 5	To understand the concept of HR analytics.
				CO 1	To understand and explain the nature and scope of marketing.
				CO 2	To demonstrate how knowledge of marketing concepts and environment can be applied to take marketing decision making.
				CO 3	To be able to comprehend the knowledge of Consumer Behavior in taking marketing decision.
				CO 4	To understand the concept of marketing mix.
				CO 5	To apply the knowledge of marketing research in identifying characteristics of consumers to take marketing decisions.
Bachelor of Business Administration	Second	BBA-205	Business Environment	CO 1	To identify and evaluate the complexities of business environment and their impact on the business.
				CO 2	To analyze the relationships between Government and business and understand the political, economic, legal and social policies of the country.
				CO 3	To analyze current economic conditions in developing emerging markets, and evaluate present and future opportunities.
				CO 4	To understand the Industrial functioning and strategies to overcome challenges in competitive markets.
				CO 5	To conduct the SWOT analysis of business.
Bachelor of Business Administration	Second	BBA-206	Fundamentals of Computers	CO 1	To gain knowledge of basic concepts / fundamentals of computer.
				CO 2	To understand the various types of Input and Output devices.
				CO 3	To understand the various types of memory used in computer systems.
				CO 4	To gain knowledge of basic concepts of software and hardware and also Knowledge of computer languages.
				CO 5	To gain knowledge of Operating systems and also basic Knowledge of Internet and search engines.
Bachelor of Business Administration	Second	BBA-207	Assessment of Soft Skill Based on Presentations/GD/Personality Traits	CO 1	To inculcate the important of softskills among the students.
				CO 2	To involve the students among various management games.
				CO 3	To improve the overall communication of the students.
				CO 4	To develop the presentation skills among the students.
				CO 5	To develop the social attitude among the students.
Bachelor of Business Administration	Third	BBA-301	Advertising Management	CO 1	To apply the ways that communicate through advertising and influence consumers.
				CO 2	To understand the role of the advertising agency and its client relationships.
				CO 3	To understand the decisions which need to be made in budgeting and planning for promotion.
				CO 4	To set promotional objectives and identify their relationship with the strategic plan and discuss a range of creative strategies in advertising.
				CO 5	To understand the concept of public relation and publicity.
Bachelor of Business Administration	Third	BBA-302	Team Building and Leadership	CO 1	To understand the theories and concepts of leadership and teamwork in an organization.
				CO 2	To understand the techniques and practical understanding of how to apply theories and concepts to improve leadership skills.
				CO 3	To be aware of the importance of teamwork and development of skills for building effective teams.
				CO 4	To be able to analyse different personality traits.
				CO 5	To understand the group dynamics.
Bachelor of Business Administration	Third	BBA-303	Indian Economy	CO 1	To acquaint the students with past, present and future of Indian economy.
				CO 2	To analyse the impact of five year plans on Indian Economy.
				CO 3	To analyse the role of small scale industries in boosting the Indian Economy.
				CO 4	To analyse the importance and role of commercial banks and other financial institutions in enhancing the economy.
				CO 5	To gain the knowledge of agriculture economics.
Bachelor of Business Administration	Third	BBA-304	Customer Relationship Management	CO 1	To understand the basic concepts of CRM and CRM system.
				CO 2	To understand the CRM process and developing CRM strategy and measurement of service quality.
				CO 3	To apply the process and strategy in choosing and implementing new CRM system in an contemporary scenario.
				CO 4	To analyze the role of sales force automation customer relationship management.
				CO 5	To understand the five phases of CRM projects.
Bachelor of Business Administration	Third	BBA-305	Management Information System	CO 1	To understand the basic concepts and technologies used in the field of management information system.
				CO 2	To apply the processes of developing and implementing information systems in the contemporary scenario.
				CO 3	To analyze the role of information systems and strategic management in an organization.
				CO 4	To evaluate how the various information systems work together to accomplish the objectives of an organization.
				CO 5	To understand the concept of decision support system and AI.
Bachelor of Business Administration				CO 1	To understand the basic concepts of Income Tax Act & the rules to determine the residential status of assessee.
				CO 2	To understand the scope of Total Income & Income which does not form the part of Total Income.





Bachelor of Business Administration	Third	BBA-306	Income Tax Law and Practice	CO 3	To apply the rules of Income Tax to compute income under different heads.
				CO 4	To understand the aggregation of income after set-off & carry forward of losses.
				CO 5	To understand the various deductions allowed from Gross Total Income.
Bachelor of Business Administration	Fourth	BBA-401	Consumer Behavior	CO 1	To understand consumer behaviour in an informed and systematic way.
				CO 2	To demonstrate how knowledge of consumer behaviour can be applied to marketing.
				CO 3	To relate internal dynamics such as personality, perception, learning, motivation and attitude to consumer choices.
				CO 4	To able to use appropriate research approaches including sampling, data collection and questionnaire design for specific consumer behaviour.
				CO 5	To enable the students in designing and evaluating the marketing strategies based on fundamental theories.
Bachelor of Business Administration	Fourth	BBA-402	Financial Management	CO 1	To understand the different basic concept Corporate Finance.
				CO 2	To use and apply different models for firm's optimum dividend payout.
				CO 3	To apply different approaches to manage working capital.
				CO 4	To analyze capital structure on the basis of cost of capital.
				CO 5	To evaluate long term investment decisions with the help of time value of money.
Bachelor of Business Administration	Fourth	BBA-403	Production & Operation Management	CO 1	To gain an understanding o basics of production management.
				CO 2	To understand the skills necessary to analyse a production systems.
				CO 3	To understand the concept of plant location and layout.
				CO 4	To understand how ERP and MRP systems are used in managing operations.
				CO 5	To understand the quality system for operations and production.
Bachelor of Business Administration	Fourth	BBA-404	Sales & Distribution Management	CO 1	To identify the dealer and customer oriented sales distribution techniques.
				CO 2	To explain the steps involved in sales force management.
				CO 3	To conduct pre-testing, post testing and concurrent testing of advertisements to determine their effectiveness.
				CO 4	To develop economic way of thinking in dealing with practical saqls distribution problems and challenges.
				CO 5	To understand various distribution networks.
Bachelor of Business Administration	Fourth	BBA-405	Research Methodology	CO 1	To understand the basic concepts of research and its methodologies.
				CO 2	To understand various kinds of research and its objectives.
				CO 3	To understand measurement & scaling techniques, data analysis-and hypothesis development techniques.
				CO 4	To apply the research tools and techniques likes, questionnaire, sampling, data analysis for conduction research.
				CO 5	To know how to write project reports.
Bachelor of Business Administration	Fourth	BBA-406	Entrepreneurship & Small Business Management	CO 1	To understand the basics of entrepreneurship and role of entrepreneurship in Indian economy.
				CO 2	To understand the concepts of entrepreneurial development programme .
				CO 3	To apply the different methodologies in executing project ideas.
				CO 4	To apply the different methods of tansportation and assignment problem.
				CO 5	To understand the process of starting the small industry.
Bachelor of Business Administration	Fourth	BBA-407	Computer Oriented Practical & Viva-Voce	CO 1	To familarize and equip the students with basic computer knowledge & skills.
				CO 2	To understand the essentials of Internet.
				CO 3	To make the students aware of mobile computing and its techniques.
				CO 4	To familarize the students with online transactions.
				CO 5	To make the students understand the network security and its applications.
Bachelor of Business Administration	Fifth	BBA-501	Arithmetic Aptitude	CO 1	To understand the basic quantitative aptitude and general mathematics.
				CO 2	To understand the various problems related to ages, calender, clock, Time & work etc.
				CO 3	To understand the concepts of Data Interpretaions.
				CO 4	To gain knowledge of Matrix and its types in detail.
				CO 5	To understand the various charts and bar diagrams.
Bachelor of Business Administration	Fifth	BBA-502	Aptitude Reasoning	CO 1	To gain knowledge of basic concepts of reasoning and logical thinking.
				CO 2	To understand the various types of Emotional & Social intelligence.
				CO 3	To understand the various types of Analogy, data Arrangements, Logical sequencing etc.
				CO 4	To gain knowledge of number series, data sufficiency, arihematic reasoning etc..
				CO 5	To gain the knowledge of visual memory and its applications.





Bachelor of Business Administration	Fifth	BBA-503	General Business Awareness	CO 1	To obtain knowledge of international organisations like IMF, World Bank, IMO etc to the students.
				CO 2	To understand the various geographical features from Indian and across the globe.
				CO 3	To understand the everyday science to the students.
				CO 4	To make the students familiar with the current business development and knowledge.
				CO 5	To make the students familiar with the constitution and Indian polity.
Bachelor of Business Administration	Fifth	BBA-504	General English	CO 1	To make the students understand the basic grammar.
				CO 2	To familiar the students with the basic editing and error locating in english.
				CO 3	To make the students learn the basic vocabulary and use them.
				CO 4	To gain the familiarity of students regarding the reading, writing, listening and comprehending.
				CO 5	To provide the knowledge of basic communication to the students.
Bachelor of Business Administration	Fifth	BBA - 505 (M1)	Rural Marketing	CO 1	To enable the students with the rural marketing concepts.
				CO 2	To familiar the students with the rural consumer.
				CO 3	To understand the marketing of agricultural inputs.
				CO 4	To gain knowledge of rural marketing strategies.
				CO 5	To understand the 4 P's of rural marketing.
Bachelor of Business Administration	Fifth	BBA - 505 (F1)	Corporate Taxes - Direct & Indirect Tax	CO 1	To understand the basic provisions of Income Tax Act 1961.
				CO 2	To understand the concept of Tax planning & management..
				CO 3	To impart knowledge regarding direct and indirect taxation.
				CO 4	To enable the students to calculate the GST with knowledge of taxable event.
				CO 5	To impart the knowledge of various Custom Laws and Regulations.
Bachelor of Business Administration	Fifth	BBA - 506 (M2)	Service Marketing	CO 1	To make the student familiar with the concepts of services marketing.
				CO 2	To understand the consumer behaviour and service design.
				CO 3	To understand the marketing mix of service marketing.
				CO 4	To make the students aware of various service marketing processes.
				CO 5	To gain knowledge of service performance parameters and understanding the gap model in true manner.
Bachelor of Business Administration	Fifth	BBA - 506 (F2)	Financial Institutions & Investment Management	CO 1	To impart the knowledge of Indian capital market to the students.
				CO 2	To make the students understand the Portfolio Analysis & Selection strategies.
				CO 3	To familiar the students with various organisations like ICICI, IFCI, NABARD, RRB etc.
				CO 4	To make the students aware with leasing and hire purchase policies.
				CO 5	To provide insights of mutual funds and its constituents to the students.
Bachelor of Business Administration	Fifth	BBA - 507	Summer Training Project Report Based Viva Voce	CO 1	To make the students undergo the industrial training.
				CO 2	To impart the knowledge of practical aspect of business world.
				CO 3	To impart the knowledge of data collection.
				CO 4	To make the students to write project report.
				CO 5	To prepare the students of effective viva voce exam based on project report.
Bachelor of Business Administration	Sixth	BBA-601	Strategic Mgt. & Business Policy	CO 1	To expose students to various perspectives and concepts in the field of Strategic Management.
				CO 2	To enable the students to understand the principles of strategy formulation, implementation and control in an organization.
				CO 3	To develop skills for applying various strategic concepts to the solution of business problems.
				CO 4	To master the analytical tools of strategic management.
				CO 5	To understand the porter's five model.
Bachelor of Business Administration	Sixth	BBA-602	Operation Research	CO 1	To understand the role of operations in overall business strategy of the firm.
				CO 2	To understand and apply the concepts of Material Management, Supply Chain Management and TQM perspectives.
				CO 3	To identify and evaluate the key factors and their interdependence of these factors in the design of effective operating systems.
				CO 4	To understand the trends and challenges of 'Operations Management' in the current business environment.
				CO 5	To apply techniques for effective utilization of operational resources.
				CO 1	To analyse the E-commerce market and trends worldwide.





Bachelor of Business Administration	Sixth	BBA-603	Fundamentals of E-Commerce	CO 2	To make the students understand the various ecommerce platforms.
				CO 3	To understand the various techniques of Ecommerce marketing.
				CO 4	To compare physical and ecommerce mode of business.
				CO 5	To understand the security issues in Ecommerce.
					To understand the concept of Industrial Relations.
				CO 1	
				CO 2	To outline the important causes & impact of industrial disputes.
				CO 3	To elaborate Industrial Dispute settlement procedures.
				CO 4	To summarize the important provisions of Wage Legislations, and Factories Act in reference to Minimum Wages Act 1948 and health and safety of workers.
				CO 5	To summarize the important provisions of Social Security Legislations, in reference to Employees State Insurance Act 1948, Employees Provident Fund Act 1952, Payment of Gratuity Act 1972.
					To familiar the students with retail business environment.
				CO 1	
				CO 2	To make the students understand the various retail formats.
				CO 3	To enable the students to learn various retail practices.
				CO 4	To gain insights and inputs regarding retail marketing and promotion.
				CO 5	To make the students familiar with limitation of retail markets.
				CO 1	To enable the learner to understand the various concepts of cost accounting and management accounting.
				CO 2	To describe cost accounting as a tool of managerial decisions.
				CO 3	To develop various skills among the students related with accounting of elements of costing.
				CO 4	To evaluate the cost of product at different levels of production.
				CO 5	To understand various cost management tools.
				CO 1	To enable the students top learn insights of digital marketing.
				CO 2	To make the students understand advantages of digital marketing.
				CO 3	To develop various skills among the students regarding tools of digital marketing.
				CO 4	To evaluate the cost of product and comparison in traditional & digital marketing.
				CO 5	To understand the limitations of digital marketing.
				CO 1	To understand the accounting treatment of issue, forfeiture, re-issue of shares, debentures and redemption of preference shares.
				CO 2	To understand the accounting treatment various special issues & buybacks.
				CO 3	To understand the standalone and consolidated final accounts of the company.
				CO 4	To understand the combinations and re-construction procedures and accounting of the company.
				CO 5	To analyze the financial statements of the company.
				CO 1	To develop a strong sense of identity among students.
				CO 2	To be able to comprehend the knowledge obtained in BBA program.
				CO 3	To be able to communicate effectively.
				CO 4	To make the students fully confident.
				CO 5	To inculcate the personality shaping and dynamism among the students.
				CO1	To familiar with determinant and matrices.
				CO2	To formulate Limits, Continuity & Differentiability.
				CO3	To demonstrate a working knowledge Definite & Indefinite Integrals.
				CO4	To define vectors in 2 and 3 dimensions & physical interpretation of scalar and vector product.
				CO5	To develop analytical ability to solve real world problems using these methodologies.
				CO1	To understand the basic programming fundamentals of C programming
				CO2	To Execute the structure of C program and use of built-in operators and datatypes.
				CO3	To Understand the use of header files, decision structure, loop control structure and functions
				CO4	To Develop an algorithm and flow chart to solve the problem
				CO5	To Develop programs using decision structures, loops and functions
				CO1	Outline computer hardware, software





Bachelor of Computer Applications	First	BCA 103	COMPUTER FUNDAMENTAL AND OFFICE AUTOMATION	CO2	Explain systems development, word-processing, spreadsheet, and presentation
				CO3	Implement binary, hexadecimal and octal number systems and their arithmetic
				CO4	Characterize the knowledge of various types of operating systems
				CO5	Summarize the basic Idea About Command Line Interface
Bachelor of Computer Applications	First	BCA 104	PRINCIPLES OF MANAGEMENT	CO1	Students would be able to define management; its importance and state the functions of management . They will be able to recognize the sequential functions of management and tell the difference between management and administration. They will be able to recognize various management authors and theory given by them.
				CO2	Students will be able to illustrate the importance of leadership, motivation, and strategy formulation in the organization and interpret change management models and stress management techniques.
				CO3	Students would be able to execute various models used in management and strategies to carry on managerial functions.
				CO4	Students will learn to analyze and implement various managerial functions by distinguishing their priority and effectiveness.
				CO5	Students will be able to justify various management theories and relate to their effectiveness in current market scenario.
				CO6	Students would be able to design new ways of drafting strategies to manage change essential for managing an organization.
Bachelor of Computer Applications	First	BCA 106	BUSINESS COMMUNICATION	CO1	To understand basic concept of business communication and principles to prepare effective communication for domestic and international business situations
				CO2	To demonstrate their verbal and non-verbal communication skills through oral and written presentations.
				CO3	To stimulate their critical thinking by designing and developing clean and lucid writing skills.
				CO4	To develop an understanding of appropriate organizational formats and channels used in business communication.
				CO5	To gain an understanding of IT Technology for Business communication.
Bachelor of Computer Applications	First	BCA 108 (008)	ENVIRONMENTAL STUDIES	CO1	To gain knowledge about basics aspects associated with structure and function of ecological systems.
				CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource and the need of their conservation for a sustainable environment.
				CO3	To gain knowledge about the conservation of biodiversity and its importance.
				CO4	To identify their roles, responsibilities as a citizen, consumers and environmental actors in a complex interconnected world.
				CO5	To analyze the impact of human and pollution on environment.
				CO6	Students will able to write and communicate effectively about environmental issues and problems.
				CO7	To enhance awareness of Disaster Risk Management
Bachelor of Computer Applications	First	BCA 105	COMPUTER LABORATORY & PRACTICAL WORK OF COMPUTER FUNDAMENTAL & OFFICE AUTOMATION	CO1	Define command of Dos operating system.
				CO2	Explain the concept of windows operating system and various application.
				CO3	Use of MS word and their various application.
				CO4	Illustrate the concept of MS-Excel and their application.
				CO5	Basic idea of Power Point Presentation and how to use it like creation of ppt on any topic.
Bachelor of Computer Applications	First	BCA 107	COMPUTER LABORATORY & PRACTICAL WORK OF C PROGRAMMING	CO1	Apply the specification of syntax rules for numerical constants and variables, data types
				CO2	Usage of Arithmetic operator, Conditional operator, logical operator and relational operators
				CO3	Read, understand and trace the execution of programs written in C language
				CO4	Write C programs using decision making, and-looping constructs
				CO5	Able to write c program using functions
Bachelor of Computer Applications	Second	BCA 201	MATHEMATICS - II	CO1	To apply the basic concepts of Sets , Relation and Functions.
				CO2	Formulate Partial Differentiation and its applications.
				CO3	To apply the basics concepts of 3 Dimensional Coordinates Geometry.
				CO4	To develop the ability to understand the double and triple integral.
Bachelor of Computer Applications	Second	BCA 202	C PROGRAMMING	CO1	Introduces with different data types, preprocessor directives, Bitwise operators and command line arguments in the C language
				CO2	To understand the concept of array, string and file handling in C programming
				CO3	Understand the dynamics of memory by the use of pointers, structure and union
				CO4	Develop logics which will help them to create programs
Bachelor of Computer Applications	Second	BCA 203	ORGANIZATION BEHAVIOR	CO1	To comprehend the nature, functioning and design of organizations as social collectives.
				CO2	To analyze the behavior of individuals and groups in organizations.
				CO3	To explain cause and effect of different behaviors in the organizations.
				CO4	To contrast the reciprocal relationship between the organizational leaders, managerial behavior, and their subordinates.
				CO5	To develop conceptual understanding of change and its implementation.
Bachelor of Computer Applications	Second	BCA 204	DIGITAL ELECTRONICS & COMPUTER ORGANIZATION	CO1	To acquire the basic knowledge of logic gates.
				CO2	To construct basic combinational circuits and verify their functionalities
				CO3	To apply the design procedures to design basic sequential circuits
				CO4	To illustrate about counters & Registers



Bachelor of Computer Applications	Second	BCA 205	FINANCIAL ACCOUNTING & MANAGEMENT	CO5 To evaluate the structure of various number systems and its application in digital design.
				CO1 Acquire the basic concepts of accounting terms along with Generally Accepted Accounting Principles (GAAP ).
				CO2 Attain in depth skills of organisation accounts and apply specific Accounting standards and accounting rules to record different transaction and events of business entities.
				CO3 Build the ability to prepare and interprets the financial statements of business entities.
				CO4 Demonstrate the roles and importance of finance function, management of funds and allocation of funds.
				CO5 Articulate the basic concepts and theories related to capital structure and cost of capital.
				CO6 Explain the importance of working capital in a business entity and list the factors influencing the working capital management.
Bachelor of Computer Applications	Second	BCA 206	Computer Laboratory & Practical work C Programming	CO1 Acquire logical thinking, Implement the algorithms and analyze their complexity, Identify the correct and efficient ways of solving problems.
				CO2 Implement real time functions using the power of C language features.
				CO3 C programs using decision making, branching, looping constructs.
				CO4 Applying and Writing C programs to implement one dimensional and two dimensional arrays. ( Dynamic Memory Allocation )
				CO5 Applying the specification of syntax rules for numerical constants and variables, data types.
Bachelor of Computer Applications	Third	BCA 301	OBJECT ORIENTED PROGRAMMING (OOPs)	CO1 To identify the difference between the C and C++
				CO2 To describe the object-oriented programming approach in connection with C++
				CO3 To apply the concepts of object-oriented programming
				CO4 Classify inheritance with understanding of early and late binding, usage of exception handling.
				CO5 To summarize the concepts of function overloading, operator overloading, virtual functions and polymorphism.
Bachelor of Computer Applications	Third	BCA 302	DATA STRUCTURE USING C & C++	CO1 Apply appropriate constructs of programming language coding standards for application development.
				CO2 Use appropriate data structures for problem solving and programming.
				CO3 Use algorithmic foundations for solving problems and programming.
				CO4 To apply Algorithm for solving problems like sorting, searching, insertion and deletion of data.
				CO5 Develop programming logic and skills.
Bachelor of Computer Applications	Third	BCA 303	COMPUTER ARCHITECTURE & ASSEMBLY LANGUAGE	CO1 To understand the theory and architecture of central processing unit.
				CO2 To analyze some of the design issues in terms of speed, technology & performance.
				CO3 To design a simple CPU with applying the theory concepts.
				CO4 To learn the concepts of parallel processing, pipelining.
				CO5 To define different number systems, binary addition and subtraction, 2's complement representation and operations with this representation.
Bachelor of Computer Applications	Third	BCA 304	BUSINESS ECONOMICS	CO1 To gain knowledge of basic concepts and fundamentals of economics
				CO2 To develop practical understanding of various economics concepts in business.
				CO3 To apply the basic concepts of different market structure in long run and short run of business.
				CO4 To compute various measures regarding macroeconomic concerns
				CO5 To take appropriate decision and applying the concept of issues of dumping, Exim policy of 2004-09, WTO concept, Globalization, group of twenty(g-20)
Bachelor of Computer Applications	Third	BCA 305	ELEMENTS OF STATISTICS	CO1 To gain Knowledge of basic concepts / fundamentals of statistics.
				CO2 To develop practical understanding of various statistics concepts.
				CO3 To compute various measures of central tendency, Measures of Dispersion, Permutations & Combinations, SQC and their implementation in solving the numerical problems.
				CO4 To apply the basic concepts of probability and solve the numerical problems.
				CO5 To Take appropriate decisions and applying the Concept of Analytics and logical thinking.
Bachelor of Computer Applications	Third	BCA 306	COMPUTER LABORATORY & PRACTICAL WORK OF OOPs	CO1 To create and explain the basic C++ program.
				CO2 To demonstrate various programs using class and objects.
				CO3 To teach the student to implement object oriented concepts
				CO4 Illustrate the use of constructors and destructors.
Bachelor of Computer Applications	Third	BCA 307	COMPUTER LABORATORY & PRACTICAL WORK OF DS	CO1 Develop simple C Programs using pointers and Functions.
				CO2 Develop C program for Linear data structure operations and its applications
				CO3 Experiment with File Manipulation concepts
				CO4 Develop programs using various sorting algorithms
				CO5 Develop programs using different searching methods
Bachelor of Computer Applications	Fourth	BCA 401	COMPUTER GRAPHICS & MULTIMEDIA APPLICATION	CO1 To describe the basics of computer graphics, different graphics systems and applications of computer graphics.
				CO2 To develop an understanding of various algorithms for scan conversion
				CO3 To apply the concept of the techniques of clipping, two dimensional transformations and three dimensional transformations.
				CO4 To perform the use of multimedia and animation.
				CO1 To describe and explain the fundamental components of a computer operating system..





Bachelor of Computer Applications	Fourth	BCA 402	OPERATING SYSTEM	CO2	To define, restate, discuss, and explain the policies for scheduling, deadlocks, memory management, synchronization, system calls, and file systems.
				CO3	To design and construct the following OS components: System calls, Schedulers, Memory management systems, Virtual Memory and Paging systems.
				CO4	To describe and extrapolate the interactions among the various components of computing systems.
				CO5	Analyze the performance of different algorithm used in design of operating system componets.
Bachelor of Computer Applications	Fourth	BCA 403	SOFTWARE ENGINEERING	CO1	To decompose the given project in various phases of a lifecycle.
				CO2	To choose appropriate process model depending on the user requirements.
				CO3	To Perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance.
				CO4	To know various processes used in all the phases of the product.
				CO5	To apply the knowledge, techniques, and skills in the development of a software product.
Bachelor of Computer Applications	Fourth	BCA 404	OPTIMIZATION TECHNIQUES	CO1	To gain Knowledge of the concepts / fundamentals of algorithms.
				CO2	To develop practical understanding of various optimization techniques.
				CO3	To compute various optimization techniques like LPP, Queuing Theory, Replacement Theory, Inventory Theory and Job Sequencing and their implementation.
				CO4	To formulate & implement the numerical methods in solving business related problems.
				CO5	To take appropriate decisions using logical thinking.
Bachelor of Computer Applications	Fourth	BCA 406	MATHEMATICS - III	CO1	To develop the ability to understand the complex number system.
				CO2	To develop an understanding of convergence and divergence of infinite series.
				CO3	To basic concepts of vector calculus.
				CO4	To get the basic concepts of Fourier Series.
				CO5	To introduce the first and second order Linear Differential Equation and determine its solution.
Bachelor of Computer Applications	Fourth	BCA 405	COMPUTER LABORATORY & PRACTICAL WORK OF CGMA	CO1	Describe the basics concepts of computer graphics.
				CO2	Discuss various algorithms for scan conversion and filling of basic objects .
				CO3	Apply clipping and filling techniques for modifying an object..
				CO4	To analyse the concepts of different types of geometric transformations.
				CO5	To apply the cocepts of animation..
Bachelor of Computer Applications	Fifth	BCA 501	INTRODUCTION TO DBMS	CO1	Define the basic concepts of database management systems
				CO2	Ability to design entity relationship model and convert entity relationship diagrams into RDBMS
				CO3	Ability to compare different storage structures and formulate SQL queries on the data.
				CO4	Able to demonstrate transaction processing and concurrency control
				CO5	Able to apply normalization technique for schema refinement
Bachelor of Computer Applications	Fifth	BCA 502	JAVA PROGRAMMING AND DYNAMIC WEBPAGE DESIGN	CO1	To implement, compile, test and run Java programs comprising more than one class
				CO2	To understand the concept of package, interface, multithreading and jdbc in java
				CO3	To design and develop simple GUI application in java
				CO4	To design the simple web page
				CO5	To make use of members of classes found in the Java API
Bachelor of Computer Applications	Fifth	BCA 503	COMPUTER NETWORK	CO1	Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies.
				CO2	Have a hasic knowledge of the use of cryptography and network security.
				CO3	Specify and identify deficiencies in existing protocols, and then go onto formulate new and better protocols.
				CO4	Analyze, specify and design the topological and routing strategies for an IP based networking infrastructure .
				CO5	Have a working knowledge of datagram and internet socket programming.
Bachelor of Computer Applications	Fifth	BCA 504	NUMERICAL METHODS	CO1	To apply numerical methods to find our solution of algebraic equations using different methods under different conditions, and numerical solution of system of algebraic equations.
				CO2	To apply various interpolation methods and finite difference concepts.
				CO3	To work out numerical differentiation and integration whenever and wherever routine methods are not applicable.
				CO4	To able solve simultaneous linear equations with different methods.
				CO5	To work numerically on the ordinary differential equations using different methods through the theory of finite differences.
Bachelor of Computer Applications	Fifth	BCA 505	COMPUTER LABORATORY & PRACTICAL WORK OF DBMS	CO1	Able to choose appropriate database schema for a given problem
				CO2	Able to design an E-R model for real world problem
				CO3	Able to develop relational model for schema refinement
				CO4	Able to build a database for roadway travels and formulate quires using DDL, DML, DCL commands
				CO5	Able to create triggers, cursors for given problem
				CO1	Write, compile, and execute Java programs that may include basic data types and control flow constructs
				CO2	Implement, compile, test and run Java programs comprising more than one class

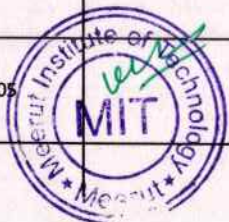




Bachelor of Computer Applications	Fifth	BCA 506	COMPUTER LABORATORY & PRACTICAL WORK OF JAVA PROGRAMMING & DYNAMIC WEBPAGE DESIGN	CO3	Write, compile and execute Java programs using object oriented class structures with parameters, constructors, including inheritance and exception handling etc.
				CO4	Write, compile, and execute Java programs using arrays, string, recursion and file handling.
				CO5	Write, compile, execute Java programs that include GUIs and event driven programming
Bachelor of Computer Applications	Fifth	BCA 507	MINOR PROJECT	CO1	To study independently in chosen domain of Information Technology and programming
				CO2	To learn about project planning, execution, tracking, audit and closure of project.
				CO3	To understand current technologies and future trends in IT Project Management.
				CO4	Gather, organize, summarize and interpret technical literature with the purpose of formulating a project proposal.
				CO5	Write a technical report summarizing state-of-the art on an identified topic.
Bachelor of Computer Applications	Sixth	BCA 601	COMPUTER NETWORK SECURITY	CO1	To identify some of the factors driving the need for network security
				CO2	To identify and classify particular examples of attacks.
				CO3	To define the terms vulnerability, threat and attack
				CO4	To identify physical points of vulnerability in simple networks.
				CO5	To compare and contrast symmetric and asymmetric encryption systems and their vulnerability to attack, and explain the characteristics of hybrid systems.
Bachelor of Computer Applications	Sixth	BCA 602	INFORMATION SYSTEM	CO1	To understand System Development Life Cycle.
				CO2	Analyse and specify the requirements of a system by gathering data.
				CO3	To develop system proposal.
				CO4	Design system components and environments.
				CO5	Evaluate software quality and productivity.
Bachelor of Computer Applications	Sixth	BCA 603	E-COMMERCE	CO1	To analyze the impact of E-commerce on business models and strategy.
				CO2	To describe the major types of E-commerce.
				CO3	To explain the process that should be followed in building an E-commerce presence.
				CO4	To identify the key security threats in the E-commerce environment.
				CO5	To describe how procurement and supply chains relate to B2B E-commerce.
Bachelor of Computer Applications	Sixth	BCA 604	KNOWLEDGE MANAGEMENT	CO1	Define Business Intelligence and Business Decision concepts.
				CO2	Explain the concept of Business Expert System and various support system
				CO3	To compute different approaches of Data Mart, Data Warehouse and its Tools.
				CO4	Examine Multidimensional analysis and Data mining techniques
				CO5	Describe Knowledge Management System and its techniques.
Bachelor of Computer Applications	Sixth	BCA 605P	MAJOR PROJECT	CO1	To design an Online Project with advanced technologies of their choice.
				CO2	To meet the requirements of the industry.
				CO3	To develop a project professionally
				CO4	To prepare a SRS report.
				CO5	To develop good presentation skills.
Bachelor of Science-Chemistry (Honors)	First	BCH-101	Inorganic Chemistry	CO 1	To understand quantum mechanical model of the atom, quantum numbers, electronic configuration and shapes of various orbitals.
				CO 2	To understand the periodic trends in atomic radii, ionic radii, ionization energy and electron affinity of elements
				CO 3	To understand the importance and application of chemical bonds, inter- molecular and intramolecular weak chemical forces
				CO 4	To understand the concept of lattice energy
				CO 5	To understand Band theory and its application in rationalizing the conductivity of metals, semiconductors and insulators
Bachelor of Science-Chemistry (Honors)	First	BCH-102	Physical Chemistry-1	CO 1	To understand the basics and advanced concepts related to state of matter
				CO 2	To understand the concept of Acids and Bases.
				CO 3	To Apply the concept of Buffer to preparer solutions
				CO4	To understand various mathematical expressions to define different states of matter.
				CO 5	various equations to calculate PH of various acids and bases.
Bachelor of Science-Chemistry (Honors)	First	BCH-103	English Communication	CO 1	To understand different patterns of Communication.
				CO 2	To discuss various forms of writing skills, paragraphs and thesis statement.
				CO 3	To understand technical writing format, letters, reports, handbooks and notices.
Bachelor of Science-Chemistry (Honors)	First	BCH-104	General Elective Mathematics	CO 1	To Apply the knowledge in mathematics (algebra, matrices, calculus) in solving arithmetic problems
				CO 2	To Understand the basic concepts of Vectors, polar coordinates and graphs.
				CO 3	To Analyze and demonstrate mathematical skills required solving differential problems.
Bachelor of Science-Chemistry (Honors)	Second	BCH-201	Organic Chemistry	CO 1	To understand the concept of Hybridisation and shapes of molecules.
				CO 2	To understand the concept of Stereochemistry.
				CO 3	To discuss chemistry of hydrocarbons.
				CO 4	To understand the concept of Aromaticity and electrophilic substitution reactions.



Bachelor of Science-Chemistry (Honors)	Second	BCH-202	Physical Chemistry-2	CO 1	To understand the concept of Thermodynamics
				CO 2	To understand the system of variable compositions and ideal gases.
				CO 3	To explain the concept of Chemical Equilibrium.
				CO 4	To understand and apply the concept of solutions and their colligative properties.
Bachelor of Science-Chemistry (Honors)	Second	BCH-203	Physics-1	CO 1	To understand the concept of Vectors.
				CO 2	To explain ordinary differential equations.
				CO 3	To understand Newton's laws of motions and their dynamics.
				CO 4	To understand concept of work, momentum and energy.
				CO 5	To explain the concept of Gravitation.
				CO 6	To explain the concept of Elasticity and speed theory of relativity.
Bachelor of Science-Chemistry (Honors)	Second	BCH-204	Environmental studies	CO 1	To discuss the concept of Environmental studies.
				CO 2	To understand the concept of Ecosystem and Food chain.
				CO 3	To explain the use of renewable and non-renewable natural resources.
				CO 4	To explain the concept of Biodiversity and conservation.
				CO 5	To understand the reasons for pollution and environmental policies and practices.
Bachelor of Science-Chemistry (Honors)	Third	BCH-301	Inorganic Chemistry-2	CO 1	To learn general principles of Metallurgy.
				CO 2	To understand chemistry of S-block elements.
				CO 3	To understand chemistry of P- block elements.
				CO 4	To explain the structure and bonding in Hydrides, Oxides and Oxoacids.
				CO 5	To learn the preparation and properties of Borazine, silicates, and interhalogen compounds.
Bachelor of Science-Chemistry (Honors)	Third	BCH-302	Organic Chemistry-2	CO 1	To understand the chemistry of Halogenated hydrocarbons.
				CO 2	To explain the preparation and properties of Alcohols, Ethers, and Phenols.
				CO 3	To explain the chemistry of Carbonyl compounds.
				CO 4	To explain the preparations and properties of Carboxylic acids and their derivatives.
Bachelor of Science-Chemistry (Honors)	Third	BCH-303	Physical Chemistry-3	CO 1	To understand the concept of Phase Equilibria.
				CO 2	To explain the concept of Electrochemical Cells.
				CO 3	To understand the concept of Surface Chemistry.
Bachelor of Science-Chemistry (Honors)	Third	BCH-304	Physics-2	CO 1	To explain the concept of Crystal Structure.
				CO 2	To understand elementary lattice dynamics.
				CO 3	To explain the magnetic properties of Matter.
				CO 4	To explain the Dielectric properties of materials.
				CO 5	To understand the idea of Superconductivity.
Bachelor of Science-Chemistry (Honors)	Fourth	BCH-401	Inorganic Chemistry-3	CO 1	To understand the concept of Coordination compounds.
				CO 2	To understand the concept of Transition elements and their anomalous behavior.
				CO 3	To understand the oxidation states and properties of Lanthanides and Actinoids.
				CO 4	To explain different inorganic reaction mechanisms.
Bachelor of Science-Chemistry (Honors)	Fourth	BCH-402	Organic Chemistry-3	CO 1	To understand the mechanism of Nitrogen containing functional groups.
				CO 2	To understand the concept of Polynuclear Hydrocarbons.
				CO 3	To understand the mechanism of substitution reactions of Furan and Pyrrole.
				CO 4	To explain the mechanism of Alkaloids and Terpenes.
Bachelor of Science-Chemistry (Honors)	Fourth	BCH-403	Physical Chemistry-4	CO 1	To explain the concept of Conductance.
				CO 2	To explain different laws and expression of Chemical Kinetics.
				CO 3	To understand the concept of Catalysis.
				CO 4	To explain the concept of electromagnetic radiations in Photochemistry.
Bachelor of Science-Chemistry (Honors)	Fourth	BCH-404	Analytical Clinical Biochemistry	CO 1	To understand the metabolism of Carbohydrates
				CO 2	To understand the metabolism of Proteins and Enzymes.
				CO 3	To understand the metabolism of Lipids and Lipoproteins.
				CO 4	To explain the structure of DNA and RNA, Genetic Code, their biological role.
				CO 5	To explain the composition and functions of Blood and Urine.
Bachelor of Science-Chemistry (Honors)	Fourth	BCH-405	Mathematics	CO 1	To understand differential equations and integrating factors.
				CO 2	To understand high order homogeneous equations with constant coefficient system of differential equations.
				CO 3	To explain the theory of power series method.
				CO 4	To explain the solution of first and second order partial differential equation.
Bachelor of Technology (CIVIL)				CO 1	understand about the basics of energy formation and its usage in one way or the other.
				CO 2	understand the basic fundamentals of Nuclear Energy.





Bachelor of Technology (CIVIL ENGINEERING)	Third	BOE304	Energy Science & Engineering	CO 3	understand solar energy formation and its uses.
				CO 4	get detailed knowledge of renewable and non renewable energy resources.
				CO 5	understand and recognize numerous types of Energy conservation norms at national and international level.
Bachelor of Technology (CIVIL ENGINEERING)	Third	BAS301	Technical Communication	CO 1	Understand fundamentals and objective of Technical Communication relevant for the workplace as Engineers.
				CO 2	Utilize the technical writing for the purposes of Technical Communication and its exposure in various dimensions.
				CO 3	Build presentation skills to while facing diverse audience.
				CO 4	Develop Technical Communication Skills: Interview skills; Group Discussion: Argumentation skills
				CO 5	Evaluate effectiveness in fluent & efficient communication by learning the voice-dynamics.
Bachelor of Technology (CIVIL ENGINEERING)	Third	BCE301	Engineering Mechanics	CO 1	Understand analytical techniques for analysing forces in statically determinate structures and motion of the bodies.
				CO 2	Apply theorem of area and mass moment of inertia for simple and composite sections.
				CO 3	Apply concepts of structural analysis to solve trusses.
				CO 4	Understand concepts of particle dynamics through work and energy and impulse momentum principles.
				CO 5	Apply concepts of kinetics to define rigid body rotation .
Bachelor of Technology (CIVIL ENGINEERING)	Third	BCE302	Surveying and geometics	CO 1	Learn the fundamental of surveying and terminology
				CO 2	Explain the concepts of measurement and traverse
				CO 3	Draw contour map
				CO 4	Analyze the points of different elevation
				CO 5	Design different types of Curves
Bachelor of Technology (CIVIL ENGINEERING)	Third	BCE303	Fluid Mechanics	CO 1	Identify the properties of fluid as a continuum
				CO 2	Solve problems on hydrostatics, including practical applications
				CO 3	Demonstrate the principles of mathematics to represent kinematic concepts related to fluid flow
				CO 4	Apply the fundamental laws of fluid mechanics - conservation of mass, conservation of linear momentum, & the Bernoulli's principle for practical application
				CO 5	Outline and Propose the methods of flow measurements
				CO 6	Apply the concept of Dimensional analysis and model studies and solve practical problems.
Bachelor of Technology (CIVIL ENGINEERING)	Third	BCE351	Building Planning & DrawingLab /CADD	CO 1	Understand the tools and commands of drafting software.
				CO 2	Understanding Working in layers, blocks, x-ref, drawing layout and print setup.
				CO 3	To Plan and draft of elevation and cross section of door and window
				CO 4	Understanding Planning and Drawings of Residential building of 1 room set (plan and section).
				CO 5	Preparation of details general arrangement drawing of 4 room duplex
Bachelor of Technology (CIVIL ENGINEERING)	Third	BCE352	Surveying and GeomaticsLab	CO 1	Understanding the measure bearings of a closed traverse by prismatic compass
				CO 2	Understanding the reduced levels of given points using Auto/dumpy level.
				CO 3	To measure horizontal angle between two objects by repetition/reiteration method.
				CO 4	To set out a simple circular curve by Rankine's method.
				CO 5	Coordinates measurement using GPS.
Bachelor of Technology (CIVIL ENGINEERING)	Third	BCE353	Fluid Mechanics Lab	CO 1	Determine the coefficient of discharge of the given venturimeter/orifice meter.
				CO 2	Determine the coefficient of discharge of the given bend meter.
				CO 3	Determine Coefficient of Friction factor for a given pipe line.
				CO 4	Verification of Bernoulli's Theorem
				CO 5	Understanding the Flow Visualization -Ideal Flow
				CO 6	To make studies in Wind Tunnel (Aerofoil and circular cylinder).
Bachelor of Technology (CIVIL ENGINEERING)	Third	BCC351	Mini Projector Internship Assessment*	CO 1	To give a platform for the students to apply the theoretical knowledge they gained during the course and conduct design working models.
				CO 2	To enable the students to use different design/coding platforms for design and analysis of project.
Bachelor of Technology (CIVIL ENGINEERING)	Third	BCC 301	Computer System Security	CO 1	Able to understand the basic Concepts of Computer System Security & Hijacking.
				CO 2	Able to understand the basics of security approaches, (such as confidentiality)
				CO 3	Able to understand basics of Architectures Principles and Web Security Issues.
				CO 4	Able to understand various protocols to establish TCP/IP connections with security features.
				CO 5	Able to apply the concepts of Cryptography Techniques and Digital Signature using Keys.
Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BAS402	Math III	CO 1	Remember the concept of partial differential equation and to solve partial differential equations
				CO 2	Analyze the concept of partial differential equations to evaluate the problems concerned with partial differential equations
				CO 3	Understand the concept of correlation, moments, skewness and kurtosis and curve fitting
				CO 4	Remember the concept of probability to evaluate probability distributions
				CO 5	Apply the concept of hypothesis testing and statistical quality control to create control charts
Bachelor of Technology (CIVIL ENGINEERING)				CO 1	Understand about the need of value education and harmony in self, family, society and nature.
				CO 2	Apply the understanding of value education to ensure harmony at all the four levels of living.



Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BVE401	Universal Human Values	CO 3	Analyze about self, feelings in relationship, society and relevance of nature.
				CO 4	Evaluate their participation (Thought, Behaviour, Work, Realization) at all the four levels of living.
				CO 5	Develop their emotional, social and professional competence.
Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BCE 401	Material, Testing & Construction Practices	CO 1	Identify various building materials and to understand their basic properties
				CO 2	Understand the use of non-conventional civil engineering materials.
				CO 3	Study suitable type of flooring and roofing in the construction process.
				CO 4	Characterize the concept of plastering, pointing and various other building services.
				CO 5	Exemplify the various fire protection, sound and thermal insulation techniques, maintenance and repair of buildings.
Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BCE 402	Introduction to Solid Mechanics	CO 1	Understand the theory of elasticity including strain/displacement and hooke's law relationship.
				CO 2	Analyse Solid mechanics problems using classical methods and energy methods.
				CO 3	Calculate and represent the stress-strain diagram in bars and simple structure.
				CO 4	Solve problems relating to pure and non-uniform bonding of beams and simple structure
				CO 5	Understand the concept of buckling and the able to solve the problems
Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BCE 403	Hydraulic Engineering & Machines	CO 1	Apply basic principles to analyze and solve open channel flow problems.
				CO 2	Apply principles of energy concepts to practical applications of free surface flow.
				CO 3	Explain the concept of Impact of jet on vanes.
				CO 4	Identify the type of turbine based on head, quantity of flow and speed.
				CO 5	Apply the principles of hydraulics and evaluate the efficiencies of turbines and centrifugal pump
Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BCE 451	Material Testing Lab	CO 1	Understanding of Testing of various properties of various materials as per BIS specifications
				CO 2	Understanding the significance of Normal Consistency of cement.
				CO 3	Understand the Water absorption of aggregate.
				CO 4	Understand the Bulking of sand .
				CO 5	Understand the water absorption of bricks and significance of water content.
Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BCE 452	Solid Mechanics Lab	CO 1	Determination of the Tension test on Mild Steel
				CO 2	Understanding the Measurement of forces on supports in statically determinate beam.
				CO 3	Demonstrate the Measurement of deflections in statically determinate beam.
				CO 4	Understanding Hardness Test (Brinell's and Rockwell)
Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BCE 453	Hydraulics & Hydraulic Machine Lab	CO 1	Understanding the Manning's coefficient of roughness 'n' for the bed of a given flume.
				CO 2	Understanding the flow characteristics over a hump placed in an open channel.
				CO 3	Understanding the characteristics of free hydraulic jump.
				CO 4	Understanding centrifugal pump and their characteristics
				CO 5	Understanding characteristics Francis Turbine.
Bachelor of Technology (CIVIL ENGINEERING)	Fourth	BCE402	Python Programming	CO 1	Understand the concept of python programming
				CO 2	Apply the concept of conditions, loops and data structures in python program
				CO 3	Apply the concept of functions, modules, recursion through python program
				CO 4	Apply the concept of abstract data type, exception handling and file handling through python program
				CO 5	Apply the concept of searching, sorting and merging through python program
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 501	Geotechnical Engineering	CO 1	Understand the origin of the soil, basic properties of soil, concept of compaction and consolidation, methods of soil exploration and the ultimate bearing capacity of shallow foundations and deep foundations.
				CO 2	Apply principles of phase diagram for soil properties
				CO 3	Analyze the behaviour and effect of water in soils, modes of soil behaviour and calculate and plot soil strength parameters and stresses analysis in soil by various methods
				CO 4	Evaluate shear parameters of soil and lateral earth pressure by various methods
				CO 5	Estimate the stability of slopes and bearing capacity of soil
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 502	Structural Analysis	CO 1	Explain type of structures and method for their analysis.
				CO 2	Analyze different types of trusses for member forces.
				CO 3	Compute slope and deflection in determinate structures using different methods.
				CO 4	Apply the concept of influence lines and moving loads to compute bending moment and shear force at different sections.
				CO 5	Analyze determinate arches for different loading conditions.
				CO 1	Define project, organization, schedule, progress, tender, contract, construction related activities.
				CO 2	Understand various types of projects and their special requirements, the available financing options, tendering requirements and cost estimates etc.





Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 503	Quantity Estimation and Construction Management	CO 3	Apply the knowledge to define the requirements of project organization for small size projects, prepare specification and formulate various items of Bill of Quantity.
				CO 4	Organize and relate various project activities which are concurrent or sequential, compare various alternatives of schedule with respect time.
				CO 5	Support or Criticize various tender requirements and the items formulated in Bill of quantity.
				CO 6	Develop a tender for projects, formulate schedule and suggest construction equipment to execute the project construction
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 051	Concrete Technology	CO 1	Learn the cement composition and its hydration process
				CO 2	Understand the effect of chemical admixtures on concrete properties
				CO 3	Learn the applicability aspects of supplementary cementing materials on properties of concrete
				CO 4	Design a concrete mix by using IS and aCI method
				CO 5	Determine the mechanical properties of concrete .
				CO 6	Learn the special types of concrete
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 055	Engineering Hydrology	CO 1	Understand various components of hydrologic cycle that affect the movement of water in the earth.
				CO 2	Process and analyze precipitation data.
				CO 3	To Develop runoff and hydrograph estimation and apply into engineering practices.
				CO 4	Apply various statistical methods for hydrological analysis.
				CO 5	The concept of movement of ground water beneath the earth with the help of different theories.
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 551	CAD LAB	CO 1	Understanding the Working of latest version of geotechnical engineering software (Open source/commercial software)
				CO 2	Understanding of Working on latest version of surveying software (Open source/commercial software)
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 552	Geotechnical Engineering Lab	CO 1	Understanding the Determination of water content of a given moist soil sample by (i) oven drying method, (ii) pycnometer method.
				CO 2	Understanding the Determination of in situ dry density of soil mass by (i) core-cutter method, (ii) sand replacement method.
				CO 3	Understanding of Determination of shear strength of soil by Direct shear test.
				CO 4	Understanding of Determination of permeability of a remoulded soil sample by constant head &/or falling head method.
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 553	Quantity Estimation & Construction Management LAB	CO 1	Understanding the Study of DSR, CPWD specifications and NBC.
				CO 2	Estimation of quantities for any one of the following: Building/ Septic tank/Water supply pipe line/road/bridge.
				CO 3	Understanding the Preparation of Bill of Quantities (BOQ) for above project
				CO 4	Practice on open source project management software / MS Project/Primavera software for same problem.
				CO 5	Understanding the Study of any full set of tender documents (Institute shall provide the set from ongoing/ completed tenders).
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KCE 554	Mini Project or Internship Assessment*	CO 1	Identify and formulate problems to solve issues for benefit of society.
				CO 2	Develop design skill for solutions to basic engineering problems.
				CO 3	Impart skills in preparing brief technical report describing the project and results.
				CO 4	Create an ability to work collaboratively in team and contribute individually.
Bachelor of Technology (CIVIL ENGINEERING)	Fifth	KNC 501	Constitution of India, Law and Engineering	CO 1	To acquaint the students with legacies of constitutional development in India and help them to understand the most diversified legal document of India and philosophy behind it.
				CO 2	To make students aware of the theoretical and functional aspects of the Indian Parliamentary System.
				CO 3	To channelize students' thinking towards basic understanding of the legal concepts and its implications for engineers.
				CO 4	To acquaint students with latest intellectual property rights and innovation environment with related regulatory framework
				CO 5	To make students learn about role of engineering in business organizations and e-governance
Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KCE 601	Design of Concrete Structure	CO 1	Analyse and Design RCC beams for flexure by IS methods.
				CO 2	Analyse and Design RCC beams for shear by IS methods.
				CO 3	Analyse and Design RCC slabs and staircase by IS methods.
				CO 4	Design the RCC compression members by IS methods.
				CO 5	Design various types of footings and cantilever retaining wall
Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KCE 602	Transportation Engineering	CO 1	Apply basic concept of Various aspects of Geometric Design.
				CO 2	Calculate various types of parameters like SSD, ISD and OSD and apply them for Geometric Design
				CO 3	Design required horizontal curves (circular and transition curves), super elevation.
				CO 4	Distribute the super elevation over the length of transition curve.
				CO 5	Design the valley curves and summit curves.
				CO 6	Select the appropriate materials for pavements (rigid and flexible) use the same design and construction of roads.
				CO 1	Understand basic concepts of water demand, distribution system and arising problems.
				CO 2	Understand Knowledge of physical , chemical and biological properties of drinking water and their human impact.



Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KCE 603	Environmental Engineering	CO 3	Design various water supply treatment units and their significance.
				CO 4	Analyze the relation between environment and water demand
				CO 5	Design waste water treatment plant units
				CO 6	Evaluate the significance of each treatment unit with their specific engineering importance
Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KCE062	River Engineering	CO 1	Explain river morphology and its classification.
				CO 2	Explain hydraulic geometry and behavior of river.
				CO 3	Explain socio-cultural influences and ethics of stream restorations.
				CO 4	Analyze flow and sediment transport in rivers and channels.
				CO 5	Design guide band, embankments and flood protection systems.
Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KOE060	Idea to Business Model	CO 1	Enhance creative knowledge of students regarding selection of a business idea and it's implementation process.
				CO 2	Acquire knowledge on entrepreneurship development, its Pro's and con's.
				CO 3	Acquire basic knowledge on how to become an Entrepreneur.
				CO 4	Develop knowledge on Production systems and it's sustainability through production, planning and control (PPC)
				CO 5	Develop appropriate business model and apply in a better way.
Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KCE 651	Transportation Engineering Lab	CO 1	perform the tests of crushing value & impact value of coarse -aggregate
				CO 2	Perform the tests of Los angeles abrasion value of coarse aggregate & penetration value of bitumen .
				CO 3	perform the tests of determination of softening point of bituminous material & flash fire point of bituminous material..
Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KCE 652	Environmental Engineering Lab	CO 1	Determine turbidity and conductivity & pH, alkalinity and acidity of a waste water sample .
				CO 2	Determine hardness and chlorides & residual chlorine of a waste water sample
				CO 3	Determine BOD and COD & total, suspended and dissolved particles of a waste water sample
Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KCE 653	Structural Detailing Lab	CO 1	Learn preparation of working drawing for simply supported, continuous and cantilever RC beams & t - beams and L-beams.
				CO 2	Learn preparation of working drawing for simply supported, continuous and one way and two way slabs & tied and spirally reinforced columns.
				CO 3	Learn preparation of working drawing for isolated footings for RC columns & combined rectangular and trapezoidal footings.
Bachelor of Technology (CIVIL ENGINEERING)	Sixth	KNC 602	Indian Tradition, Culture and Society	CO 1	Students will be able explain society, state and polity in India in traditional and modern context.
				CO 2	Students will be acquaint with essence of Indian Literature, Culture, Tradition and Practices
				CO 3	Students will be able to visualize the root of Indian Religion, Philosophy and Practices
				CO 4	Students will be able to understand Science, Management and Indian Knowledge System
				CO 5	Students will connect up and explain Cultural Heritage of India and root of Performing Arts
Bachelor of Technology (CIVIL ENGINEERING)	Seventh	KHU701	Rural Development: Administrationand Planning	CO 1	Students can understand the definitions, concepts and components of Rural Development
				CO 2	Students will know the importance, structure, significance, resources of Indian rural economy.
				CO 3	Students will have a clear idea about the area development programmes and its impact
				CO 4	Students will be able to acquire knowledge about rural entrepreneurship.
				CO 5	Students will be able to understand about the using of different methods for human resource planning
Bachelor of Technology (CIVIL ENGINEERING)	Seventh	KCE074	Solid Waste Management	CO 1	Understand the concept of solid waste management.
				CO 2	Explain handling and processing of solid waste.
				CO 3	Apply the concept of landfilling for disposal of solid waste.
				CO 4	Design composting and other solid waste conversion units.
				CO 5	Understand the various hazardous waste, risk assessment and legislation.
Bachelor of Technology (CIVIL ENGINEERING)	Seventh	KCE078	Irrigation and Water Resource Engineering	CO 1	Describe the components of hydrological cycle, evaporation process and consumptive use.
				CO 2	Apply the knowledge of stream flow measurement techniques and hydrograph theory for computation of run-off.
				CO 3	Design different types of irrigation channels and water logging preventive measures.
				CO 4	Design the regulatory and control systems of canal and irrigation outlets.
				CO 5	Apply the knowledge of ground water hydrology and determination of discharge through wells.
Bachelor of Technology (CIVIL ENGINEERING)	Seventh	KOE074	Renewable Energy Resources	CO 1	Identify the various Renewable Energy Resources.
				CO 2	Apply the concept of solar radiation in Solar Heating and cooling.
				CO 3	Convert Geotghermal Energy into Electrical Energy and any other Energy.
				CO 4	Convert Wind Energy into Electrical EnergyConvert Geotghermal Energy into Electrical Energy..
				CO 5	Understand the concept of energy Conversion from OTEC, Wave and tidal wave.
				CO 1	Understand the Codal Provision for (i) Aggregates (ii) Cements (iii) Admixtures (iv) Fly ash in making the concrete.





Bachelor of Technology (CIVIL ENGINEERING)	Seventh	KCE751	ConcreteLab	CO 2	Prepare the Concrete Mix design computation by ACI 211.1-91 method, IS code method as per 10262-2019 & 456-2000, DOE method for given sample.
				CO 3	Test the samples and Fresh concrete
				CO 4	Understand the Effects of Admixture - Accelerator, Retarder, Super Plasticizer.
				CO 5	Perform NDT on Concrete samples
Bachelor of Technology (CIVIL ENGINEERING)	Seventh	KCE752	Mini ProjectorInternship Assessment	CO 1	Apply acquired knowledge within the chosen area of technology for project development
				CO 2	Analyze the technical aspects of the chosen project with a comprehensive and systematic approach
				CO 3	Test, improve and refine the technical aspects for engineering projects
				CO 4	Conclude as an individual or in a team in development of technical projects
				CO 5	Create and report effectively project related activities and findings
Bachelor of Technology (CIVIL ENGINEERING)	Seventh	KCE753	Project-1	CO 1	An understanding of professional and ethical responsibilities.
				CO 2	An ability to use of various techniques, engineering knowledge and skill, and modern engineering tools necessary for planning, analysis and designing of engineering projects like building, roads, geotechnical works/problems.
				CO 3	Recognition of the need for, and ability to engage in life-long learning.
				CO 4	Knowledge of contemporary issues.
Bachelor of Technology (CIVIL ENGINEERING)	Eighth	KHU 802	Project Management & Entrepreneurship	CO 1	Describe the key concepts and attributes that make a successful Entrepreneur.
				CO 2	Illustrate the function of an entrepreneur in a successful, commercial application of innovation.
				CO 3	Integrating the learning techniques for project planning and execution control.
				CO 4	Identify the financing process of the entrepreneurial business.
				CO 5	Identify areas of our economy/society where social entrepreneurs work.
Bachelor of Technology (CIVIL ENGINEERING)	Eighth	KOE083	Entrepreneurship Development	CO 1	Student will be able to differentiate about small and large-scale industries.
				CO 2	Students will be able to identify the projects by studied methods.
				CO 3	Students will be able to evaluate efficiently finance related work.
				CO 4	Students will be able to Apply the project planning and Controlling methods.
				CO 5	Students will be able to Compare all the legal aspects related to entrepreneur and small-scale industries.
Bachelor of Technology (CIVIL ENGINEERING)	Eighth	KOE-094	Digital & Social Media Marketing	CO 1	Explain the key concepts related to Digital Marketing and Consumer's behavior.
				CO 2	Describe the role of Social Media Marketing in Digital Marketing.
				CO 3	Describe various tools of Digital Marketing.
				CO 4	Differentiate the role & amp relationship between organizational design & digital transformation.
				CO 5	Explain the Digital Trends of Past & amp Future.
Bachelor of Technology (CIVIL ENGINEERING)	Eighth	KCE 851	Project-II	CO 1	An understanding of professional and ethical responsibilities.
				CO 2	An ability to use of various techniques, engineering knowledge and skill, and modern engineering tools necessary for planning, analysis and designing of engineering projects like building, roads, geotechnical works/problems.
				CO 3	Recognition of the need for, and ability to engage in life-long learning.
				CO 4	Knowledge of contemporary issues.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering	Third & Fourth	BAS303	MATH IV	CO 1	Remember the concept of partial differential equation and to solve partial differential equations.
				CO 2	Analyze the concept of partial differential equations to evaluate the problems concerned with partial differential equations.
				CO 3	Understand the concept of correlation, moments, skewness and kurtosis and curve fitting.
				CO 4	Remember the concept of probability to evaluate probability distributions.
				CO 5	Apply the concept of hypothesis testing and statistical quality control to create control charts.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering	Third & Fourth	BVE301/BVE401	UNIVERSAL HUMAN VALUES AND PROFESSIONAL ETHICS	CO 1	To understand sustained happiness through the essentials of human values and skills.
				CO 2	To identify harmony in self and body and their co-existence
				CO 3	To understand harmony in family and society.
				CO 4	To explain the mutually satisfying human behaviour with enriching interaction with nature .
				CO 5	Identify ethical and unethical conduct through value based education,to maintain a harmonious professional environment.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering	Third & Fourth	BAS 301/ BAS401	TECHNICAL COMMUNICATIONS	CO 1	Understand the fundamental of all modes of technical communication along with their elements, dimensions.
				CO 2	Understand to write pragmatic and impactful reports, research paper, technical proposals and resumes.
				CO 3	Understand public speaking strategies, technique and different style.
				CO 4	Grasp the essential of interview and group discussion and skill required to face them confidently.
				CO 5	Comprehend the grammatical and oral aspect of the english language as an effective tool of communication.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering	Third	BCS301	DATA STRUCTURE	CO 1	Understand the basics of data Structure
				CO 2	Understand the concepts of linear.
				CO 3	Understand the concepts of non-linear Data Structure



Engineering), Computer Science & Engineering				CO 4	Apply the concept of Linear Data Structure
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Third	BCS302	COMPUTER ORGANIZATION AND STRUCTURE	CO 5	Apply the concept of non-linear Data Structure
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Third	BCS303	DISCRETE STRUCTURE AND THEORY OF LOGIC	CO 1	Understand the basic structure, operation of computer & its components.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Third	BCS351	DATA STRUCTURE LAB	CO 2	Understand the different ways of communication among CPU, memory and I/O devices.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Third	BCS352	COMPUTER ORGANIZATION AND STRUCTURE LAB	CO 3	Understand the parameters for the design of memory unit, control unit, ISA and different memory organization
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Third	BCS353	WEB DESIGNING WORKSHOP	CO 4	Apply the different algorithms for arithmetic operations, logic operations and different instruction formats
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Third	BCC351	Mini Project	CO 5	Compute the performance of different pipeline techniques.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Third & Fourth	BCC301/ BCC401	CYBER SECURITY	CO 1	Illustrate basic mathematical objects such as sets, relations, POSET and Lattices.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Third & Fourth	BCC302/BCC402	PYTHON PROGRAMMING	CO 2	Examine various structures and properties of Boolean Algebra and functions.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Fourth	BCS401	OPERATING SYSTEM	CO 3	Explore the mathematical properties via formal language of propositional and predicate logic.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Fourth	BCS402	THEORY OF AUTOMATA AND FORMAL LANGUAGES	CO 4	Solve substantial experience of Algebraic Structure as groups, rings and fields.
				CO 5	Use graphs as tools to visualize and simplify the problems.
				CO 1	Implement different sorting and searching algorithms
				CO 2	Implement the Stack, Queue and their applications
				CO 3	Implement various types of linked lists and their applications
				CO 4	Perform basic operations on trees and graphs and determine minimum spanning tree
				CO 1	Implement adder circuits using basic gates
				CO 2	Understand the converter circuits using basic gates.
				CO 3	Understand the working of Multiplexer by using IC 74153
				CO 4	Understand the various circuits for ALU, datapath and control units.
				CO 1	Implement the Static Page Web Designs using HTML.
				CO 2	Design dynamic web pages using Cascading Style Sheets.
				CO 3	Implement the features of Bootstrap.
				CO 4	Implement the concepts of Java Script in the designs of Web pages.
				CO 1	Developing a technical artifact requiring new technical skills and effectively utilizing a new software tool to complete a task
				CO 2	Writing requirements documentation, Selecting appropriate technologies, identifying and creating appropriate test cases for systems.
				CO 3	Writing requirements documentation, Selecting appropriate technologies, identifying and creating appropriate test cases for systems.
				CO 4	Improving problem-solving, critical thinking skills and report writing.
				CO 5	Learning professional skills like exercising leadership, behaving professionally, behaving ethically, listening effectively, participating as a member of a team, developing appropriate workplace attitudes
				CO 1	Understand the software bugs that pose cyber security threats and how to fix the bugs to mitigate such threats.
				CO 2	Understand the attack scenarios to web browsers, web servers and how to mitigate such threats.
				CO 3	Understand the cyber security holes in standard networking protocols such as TCP/IP, ARP, DNS, Ethernet, BGP etc and how to mitigate such Security hole.
				CO 4	Understand the difference between: System Security, Network Security and Cryptography, Crypto- Protocol etc.
				CO 5	Understand the cyber threats to Critical Infrastructures.
				CO 1	Apply fundamental Python programming concepts, including variables, basic operators, and Python block structures.
				CO 2	Demonstrate proficiency in using conditional blocks and implementing loop constructs for efficient program flow control.
				CO 3	Manipulate complex data types in Python, including strings, lists, tuples, and dictionaries, utilizing built-in methods and operations.
				CO 4	Implement file input/output operations in Python, including reading and writing files, understanding file functions, and manipulating file pointers.
				CO 5	Utilize Python packages such as matplotlib, numpy, and pandas to perform data visualization and analysis, and develop graphical user interface(GUI) applications using Tkinter.
				CO 1	To Explain the basic concepts and functionalities of operating system.
				CO 2	To Apply the process scheduling and synchronization techniques.
				CO 3	To Implement deadlock control mechanism.
				CO 4	To Apply memory and I/O management techniques.
				CO 5	To Implement file management system.
				CO 1	To Apply the concepts of Automata.
				CO 2	To Identify formal language class and its relationships in the given problem.
				CO 3	To Construct grammar for given formal language.
				CO 4	To Design Automata for given formal language.
				CO 5	To Analyze the tractability and decidability using Turing Machine.



Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering (Artificial Intelligence & Machine Learning)	Fourth	BCS403	OBJECT ORIENTED PROGRAMMING WITH JAVA	CO 1	Discuss essential programming structures in Java, including data types, variables, operators, controlflow, arrays, and strings.
				CO 2	Understanding the concepts of object-oriented programming and develop Java programs efficiently.
				CO 3	Demonstrate the concept of exception handling to understand the various types of exceptions and will gain proficiency in input/output operations.
				CO 4	Apply multithreading concepts and Java's latest features such as functional interfaces, lambda expressions, stream API etc.
				CO 5	Develop Java Collections Framework, Spring Framework and Spring Boot for building REST fulweb services and web applications.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Fourth	BCS451	OPERATING SYSTEM LAB	CO 1	To apply the basic LINUX commands, process concepts and system calls.
				CO 2	To implement various CPU scheduling algorithm for a given problem
				CO 3	To implement the concepts of deadlock and multiprogramming system
				CO 4	To implement various page replacement algorithms.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Fourth	BCS452	OBJECT ORIENTED PROGRAMMING WITH JAVA LAB	CO 1	Write and execute Java Program using OOPS concepts on Different Platforms
				CO 2	Implement error handling techniques using exceptions and multithreading.
				CO 3	Create and Construct Java Programs using Packages and Industry Orientd Application using Spring Boot.
				CO 4	Implement Test REST ful webservices and Test Front end web appllication with Spring Boot.
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering	Fourth	BCS453	CYBER SECURITY WORKSHOP	CO 1	understanding capturing packets using Wireshark and to analyse protocols like HTTPS,DNS,SMTP,TCP and UDP,
				CO 2	understand and analyse captured traffic to identify signs of malware communication
				CO 3	Understand network traffic analysis, detecting suspicious activities and demonstrate vulnerabilities.
				CO 4	Understand and set up various type of attacks loke ARP Poising,SQL injection,CSRP attack,Brute force and Dictionary attacks
Bachelor of Technology (Computer Science & Engineering), Computer Science & Engineering (Data Science) and Computer Science & Engineering (Artificial Intelligence & Machine Learning)	Third & Fourth	BOE 303/BOE 403	ENERGY SCIENCE AND ENGINEERING	CO 1	understand about the basic of energy formation and its usage in one way or the other.
				CO 2	Understand the basic fundamental of Nuclear Energy.
				CO 3	understand solar energy formation and uses.
				CO 4	Get detailed knowlwdge of renewable nad non renewable energy resource.
				CO 5	Understand and recognize nenerous type of energy conservation norms at national and international level.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS501	DATA BASE MANAGEMENT SYSTEM	CO-1	To understand the different issues involved in the design and implementation of database system.
				CO-2	To apply database queries in SQL, Relational algebra, tuple and domain calculus.
				CO-3	To apply normalization techniques.
				CO-4	To apply concepts of transaction processing and distributed database.
				CO-5	To apply the concurrency control protocols.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS 502	COMPILER DESIGN	CO-1	Understand the phases of Compiler Design
				CO-2	Apply the formal attributed grammar for specifying the syntax and semantics of programming languages
				CO-3	Apply different Parsing Techniques and error recovery techniques to generate parse trees
				CO-4	Apply Syntax directed Translation scheme to generate Translation
				CO-5	Apply Syntax directed Translation scheme to generate Translation
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS 503	Design and Analysis of Algorithm	CO-1	To understand the growth rate, performance measures and design paradigms of algorithms.
				CO-2	To apply advanced data structures and various sorting algorithms.
				CO-3	To apply string matching algorithms, greedy & dynamic programming approaches to enhance problem solving skills.
				CO-4	To interpret the approximation algorithms, randomized algorithms and NP complete problems
				CO-5	To analyze various problems, and compare appropriate algorithmic design techniques for their solution
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS 055	MACHINE LEARNING	CO-1	To understand the need for machine learning for various problem solving
				CO-2	To understand a wide variety of learning algorithms.
				CO-3	To analyze the latest trends in machine learning in comparision to conventional Method.
				CO-4	To apply appropriate machine learning algorithms to a real-world problems
				CO-5	To apply Genetic Algorithms to solve real world problems.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS 054	OBJECT ORIENTED SYSTEM DESIGN	CO-1	To understand the Application development and analyze the insights of object oriented programming to implement application.
				CO-2	To understand, Analyze and apply the role of overall modeling concepts.(i.e system, structural)
				CO-3	To understand, Analyze and apply oops concepts.(i.e abstraction, inheritance)
				CO-4	To learn concepts of C++ for understanding the implementation of object oriented concepts
				CO-5	To learn the programming concepts to implement object oriented modeling.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KNCS01	COI	CO-1	To understand the basic features of indian modelity and constition.
				CO-2	To understand and relate the functioning of indian parliament sytem at the center and state level.
				CO-3	To understand the different aspect of indina legal sytem and its related bodies.
				CO-4	To understand the different laws and regulation related to engineering practices.
				CO-5	To understand the role of engineers in organization and governance model.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)				CO-1	To apply database language commands to create & implement the database.



Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS551	DBMS LAB	CO-2 To apply aggregate operators and SQL queries to retrieve records from the database.
				CO-3 To apply the concepts of relational algebra, join and change it into SQL queries.
				CO-4 To apply PL/SQL for processing a database.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS 552	CD LAB	CO-1 To understand Lexical analyzer for if statement and Arithmetic expressions
				CO-2 To implement DFA and NFA
				CO-3 To implement Shift Reduce Parser, Operator Precedence Parser and Recursive Decent Parser
				CO-4 To implement Code Generator and Code Optimization Techniques
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS 553	DAA LAB	CO-1 To analyze various sorting techniques.
				CO-2 To implement problems based on Divide and Conquer approach
				CO-3 To implement problems based on using Greedy Approach
				CO-4 To apply concepts of dynamic programming and Backtracking approach
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Fifth	KCS 554	Mini Project	CO-1 To Identify the problem statement in the field of CS&E
				CO-2 To Identify tools, techniques and software to provide the solution of identified problems
				CO-3 To demonstrate an ability to work in a team
				CO-4 To be able to write report, and prepare a presentation
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS-601	SOFTWARE ENGINEERING	CO-1 To understand the fundamentals of software engineering .
				CO-2 To understand the software quality assurance and standards.
				CO-3 To explain the various strategies i.e. Design, Coding, Testing and Maintenance to develop software.
				CO-4 To calculate the various software related parameters i.e. size, time, cost etc
				CO-5 To describe the various Software Tools.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS-602	WEB TECHNOLOGY	CO-1 To illustrate Web development Strategies, Protocols and basics of JAVA
				CO-2 To Model programs based on Java for Web applications, I/O and Socket programming.
				CO-3 To model web pages using HTML, XML, CSS and JavaScript.
				CO-4 To Demonstrate enterprise level applications and apply operations in web databases using JDBC.
				CO-5 To use Servlets and JSPs to model interactive web applications.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS-603	COMPUTER NETWORK	CO-1 Explain basic concepts, OSI reference model, services and role of each layer of OSI model and TCP/IP, networks devices and transmission media, Analog and digital data transmission
				CO-2 Apply channel allocation, framing, error and flow control techniques.
				CO-3 Describe the functions of Network Layer i.e. Logical addressing, subnetting & Routing Mechanism.
				CO-4 Explain the different Transport Layer function i.e. Port addressing, Connection Management, Error control and Flow control mechanism.
				CO-5 Explain the functions offered by session and presentation layer and their Implementation. Explain the different protocols used at application layer i.e. HTTP, SNMP, SMTP, FTP, TELNET and VPN.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS-604	DATA COMPRESSION	CO-1 To understand the fundamentals of Data Compression.
				CO-2 To understand Scalar and Vector Quantization.
				CO-3 To understand various compression techniques and models.
				CO-4 To apply different encoding and decoding techniques.
				CO-5 To understand the practical aspects of compression
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KOE060	IDEA TO BUSINESS MODEL	CO-1 Discuss various concepts related to entrepreneurship.
				CO-2 Discuss concepts of production and communication process.
				CO-3 Analyze entrepreneurial environment and entrepreneurial development program.
				CO-4 Develop an appropriate business model.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KOE 065	CBNT	CO-1 Apply the concept of errors to evaluate approximate roots
				CO-2 Analysis of different interpolation methods to create interpolating graphs
				CO-3 Understand the concept of interpolation for numerical differentiation and integration
				CO-4 Understand the concept of formula based solution of ordinary differential equations with initial condition
				CO-5 Apply the concept of partial differential equation to solve the partial differential equations
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KNC 602	ITCS	CO-1 To recall the roots & challenges of Society State and Polity in ancient India.
				CO-2 To understand the importance of Indian Literature, Culture, Tradition, & Practices .
				CO-3 To discuss Indian Religion, Philosophy & practices.
				CO-4 To relate Holistic Lifestyle with rapid technological advancement.
				CO-5 To understand the contribution of Cultural Art & Architecture in Ancient India.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 651	CE I AR	CO-1 To prepare requirement document for standard application problems in standard format.
				CO-2 To implement various structural diagrams using tools .



Science & Engineering (Data Science)				CO-3 To implement various Behavioral diagrams using tools .
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 652	WT LAB	CO-4 To implement reverse and forward engineering in java.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 653	CN LAB	CO-1 To prepare the User Interface using HTML , CSS , Javascript and java.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 653	CN LAB	CO-2 To illustrate the database connectivity.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 653	CN LAB	CO-3 To install APACHE TOMCAT and database.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 653	CN LAB	CO-4 To design the server side application using session tracking API.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 653	CN LAB	CO-1 Understanding different network topologies.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 653	CN LAB	CO-2 Understanding and applying various framing methods of Data Link Layer
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 653	CN LAB	CO-3 Understanding various Error and flow control techniques.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Sixth	KCS 653	CN LAB	CO-4 Applying network routing and addressing techniques
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	PROJECT MANAGEMENT AND Entrepreneurship	CO-1 To understand concepts of Entrepreneurship.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	PROJECT MANAGEMENT AND Entrepreneurship	CO-2 To understand regarding selection of business idea.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	PROJECT MANAGEMENT AND Entrepreneurship	CO-3 To understand concept of project management .
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	PROJECT MANAGEMENT AND Entrepreneurship	CO-4 To understand project financing and budgetting.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	PROJECT MANAGEMENT AND Entrepreneurship	CO-5 To understand the social responsibility through social entrepreneurship .
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	RURAL DEVELOPMENT : ADMINISTRATION AND PLANNING	CO1 To understand the concept of Rural Development.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	RURAL DEVELOPMENT : ADMINISTRATION AND PLANNING	CO2 To illustrate various rural development programmes.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	RURAL DEVELOPMENT : ADMINISTRATION AND PLANNING	CO3 To understand various components of rural administration .
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	RURAL DEVELOPMENT : ADMINISTRATION AND PLANNING	CO4 To explain concept and methods of HRD and Nutritional Status .
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KHU701/802	RURAL DEVELOPMENT : ADMINISTRATION AND PLANNING	CO5 To interpret the concept about rural entrepreneurship and industrialization
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KOE074	RENEWABLE ENERGY & RESOURCE	CO-1 Able to understand the renewable energy sources available at present.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KOE074	RENEWABLE ENERGY & RESOURCE	CO-2 Able to understand the solar energy operation and its characteristics
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KOE074	RENEWABLE ENERGY & RESOURCE	CO-3 To educate the wind energy operation and its types.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KOE074	RENEWABLE ENERGY & RESOURCE	CO-4 To educate the tidal and geothermal energy principles and its operation.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KOE074	RENEWABLE ENERGY & RESOURCE	CO-5 Able to understand the biomass energy generation and its technologies.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS713	CLOUD COMPUTING	CO-1 To understand the concept of cloud computing
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS713	CLOUD COMPUTING	CO-2 To explain the need, type and tools of virtualization for cloud.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS713	CLOUD COMPUTING	CO-3 To understand fundamental concepts of cloud infrastructures and cloud storage
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS713	CLOUD COMPUTING	CO-4 To understand the resource provisioning methods and security challenges in cloud.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS713	CLOUD COMPUTING	CO-5 To introduce with various cloud technology like- HADOOP, Virtual Box etc.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 077	DISTRIBUTED SYSTEM	CO-1 To understand the principles & problems of distributed systems.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 077	DISTRIBUTED SYSTEM	CO-2 To solve problems in distributed Mutual Exclusion using various algorithms and methods.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 077	DISTRIBUTED SYSTEM	CO-3 To analyze different Agreement Protocols in Distributed Systems.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 077	DISTRIBUTED SYSTEM	CO-4 To understand the concepts of Fault Tolerance and failure recovery of resources in distributed system.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 077	DISTRIBUTED SYSTEM	CO-5 To analyze different distributed system transactions and concurrency controls.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 751A	DISTRIBUTED SYSTEM LAB	CO-1 To implement the Functioning of Lamport and Vector Clocks.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 751A	DISTRIBUTED SYSTEM LAB	CO-2 To implement deadlock detection algorithm in Distributed Environment.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 751A	DISTRIBUTED SYSTEM LAB	CO-3 To design distributed programs using sockets and RMI balanced and Sliding Window protocol.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 751A	DISTRIBUTED SYSTEM LAB	CO-4 To implement a distributed chat server using TCP socket and CORBA mechanism.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 753	Project	CO-1 To identify a problem statement based on real world problem
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 753	Project	CO-2 To be able to formulate the work plan and write synopsis
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 753	Project	CO-3 To identify the state-of-the-art tools, techniques, and platform to provide the solution of the identified problem statement
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Seventh	KCS 753	Project	CO-4 To demonstrate an ability to work in a team
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE 093	DATA WAREHOUSE AND DATA MINING	CO-1 Discuss the concepts of data warehousing and Data Mining
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE 093	DATA WAREHOUSE AND DATA MINING	CO-2 Explain the basic concepts of data visualization
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE 093	DATA WAREHOUSE AND DATA MINING	CO-3 Apply the process of warehouse planning, design and technology.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE 093	DATA WAREHOUSE AND DATA MINING	CO-4 Use the concepts of data mining with different techniques of data pre-processing
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE 093	DATA WAREHOUSE AND DATA MINING	CO-5 Analyze different algorithms of data classification and data clustering.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE883	Entrepreneurship Development	CO-1 To understand the concept of Entrepreneurship and to learn the professional behavior expected of an entrepreneur.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE883	Entrepreneurship Development	CO-2 To identify significant changes and trends which create business opportunities and to analyze the environment for potential business opportunities.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE883	Entrepreneurship Development	CO-3 To understand the accountancy, quality control, inventory management and budgeting in entrepreneurship.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE883	Entrepreneurship Development	CO-4 To provide conceptual exposure on converting idea to a successful entrepreneurial firm.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE883	Entrepreneurship Development	CO-5 To understand the laws and business ownership in entrepreneurship.
Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KOE883	Entrepreneurship Development	CO-1 To identify a problem statement based on real world problem



Bachelor of Technology (Computer Science & Engineering) and Computer Science & Engineering (Data Science)	Eighth	KCS 851	Project 1	CO-2 To be able to formulate the work plan to develop the project
				CO-3 to identify the state-of-the-art tools, techniques, and platform to provide the solution of the identified problem statement.
				CO-4 To be able to write report, and prepare a presentation.
Bachelor of Technology Computer Science & Engineering (Data Science)	Fifth	KDS501	Data Analytics and Vizualization	CO-1 To introduce the concept of Data Analytics Lifecycle.
				CO-2 To Develop Mathematical concepts required for advance regression.
				CO-3 To Understand data modeling in time series and its process.
				CO-4 To understand about Text analytics and its applications.
				CO-5 To provide overview of Data analytics and visualization with R and Python.
Bachelor of Technology (Electronics & Communication Engineering)	Third	BEC301	Electronic Devices	CO 1 To understand the phenomenon of charge carriers and energy bands in semiconductors and solid state devices.
				CO 2 To describe the characteristics of the p-n junction diode and some optoelectronic devices and their application in electronic circuits.
				CO 3 To explain the structure and characteristics of MOSFETs and to analyze the DC bias circuits, small-signal AC circuits with emphasis on single stage MOSFET amplifiers.
				CO 4 To examine the structure and characteristics of BJT and to analyze the DC bias circuits, small-signal AC circuits with emphasis on single stage BJT amplifiers.
				CO 5 To understand the various feedback topologies in electronic circuits and basic principle of oscillation in various sinusoidal oscillators.
Bachelor of Technology (Electronics & Communication Engineering)	Third	BEC302	Digital System Design	CO 1 To convert different type of codes and number systems which are used in digital communication and computer systems.
				CO 2 To understand, analyze, and design combinational logic circuits and their various applications also.
				CO 3 To understand, analyze, and design Synchronous Sequential logic circuits and their various applications also.
				CO 4 To understand, analyze, and design Synchronous Sequential logic circuits and their various applications also.
				CO 5 To understand different types of Memory System and Logic families.
Bachelor of Technology (Electronics & Communication Engineering)	Third	BEC303	Network Analysis & Synthesis	CO 1 To apply mesh & nodal analysis to complex circuits and express them using Thevenin's and Norton's equivalent forms.
				CO 2 To evaluate the performance of RL, RC, and RLC circuits by the application of Laplace transform.
				CO 3 to apply use graph theory in solving networks.
				CO 4 To analyze the given network using different two port network parameters.
				CO 5 To determine the response of a network using network functions & synthesize network functions.
Bachelor of Technology (Electronics & Communication Engineering)	Third	BEC351	Electronic Devices Lab	CO 1 To understand and verify the working of different diodes, transistor amplifiers (BJT & FET), Operational amplifier, Sinusoidal Oscillators, CRO probes and measuring instruments.
				CO 2 To design the circuits with semiconductor devices (Diodes, BJT, and FET etc.), passive components, measuring instruments and power supplies that serve many practical purposes.
				CO 3 To construct, analyze and troubleshoot the designed circuit.
				CO 4 To measure and record the experimental data and analyze the results.
				CO 5 To simulate the electronic circuits using PSPICE simulator software and verify the results physically on bread-boards.
Bachelor of Technology (Electronics & Communication Engineering)	Third	BEC352	Digital System Design Lab	CO 1 To understand various digital ICs and their datasheet.
				CO 2 To implement Boolean function using logic gates on bread Board.
				CO 3 To implement various combinational circuits on bread board using different Logic gates ICs
				CO 4 To Verify of state tables of various flip-flops using NAND & NOR gates
				CO 5 To design the 4-bit synchronous and Asynchronous counter
Bachelor of Technology (Electronics & Communication Engineering)	Third	BEC353	Network Analysis & Synthesis Lab	CO 1 Understand basics of electrical circuits with nodal and mesh analysis.
				CO 2 Appreciate electrical network theorems.
				CO 3 Analyse RLC circuits.
				CO 4 Determine the stability of an electrical circuit.
				CO 5 Design network filters.
Bachelor of Technology (Electronics & Communication Engineering)	Third	BCC301	Cyber Security	CO 1 Understand the basic concepts of cyber security and cybercrimes. K1, K2
				CO 2 Understand the security policies and cyber laws. K1, K2
				CO 3 Understand the tools and methods used in cyber crime K2
				CO 4 Understand the concepts of cyber forensics K1, K2
				CO 5 Understand the cyber security policies and cyber laws
Bachelor of Technology (Electronics & Communication Engineering)	Third	BCC351	Mini Project/ internship	CO 1 To generate a report based on the experiences and projects carried out with the ability to apply knowledge of Mathematics, Science, and Engineering Fundamentals.
				CO 2 To demonstrate competency in relevant engineering fields through problem identification, formulation and solution.
				CO 3 To implement skills in communication, in writing and using multimedia tools.
				CO 4 To develop the ability to work as an individual and in group with the capacity to be a leader or manager as well as an effective team member.
				CO 5 To learn professional and ethical responsibilities of an engineer.



Bachelor of Technology (Electronics & Communication Engineering)	Third	BAS301	Technical Communication	CO 1	Students will be able to UNDERSTAND the nature and objective of Technical Communication relevant for the work place as Engineers.
				CO 2	Students will be able to DEVELOP an understanding of key concepts of writing, designing and speaking.
				CO 3	Students will be able to UTILIZE the technical writing skills for the purposes of Technical Communication and its exposure in various dimensions.
				CO 4	Students will be able BUILD UP interpersonal communication traits that will make the transition from institution to workplace smoother and help them to excel in their jobs
				CO 5	Students will be able to APPLY technical communication to build their personal brand and handle crisis communication
Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BAS403	Math-IV	CO 1	The idea of partial differential equation and its different types of solution.
				CO 2	The concept of method of separation of variables and Fourier transform to solve partial differential equations
				CO 3	The basic ideas of statistics including measures of central tendency, correlation, regression and their properties.
				CO 4	The idea of probability, random variables, discrete and continuous probability distributions and their properties.
				CO 5	The statistical methods of studying data samples, hypothesis testing and statistical quality control.
Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BVE401	Universal Human Values & Professional Ethics	CO 1	To understand about the need of value education and harmony in self, family, society and nature.
				CO 2	To apply the understanding of value education to ensure harmony at all the four levels of living.
				CO 3	To analyze about self, feelings in relationship, society and relevance of nature.
				CO 4	To evaluate their participation at all the four levels of living.
				CO 5	To improve their emotional, social and professional competence.
Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BEC401	Communication Engineering	CO 1	Analyze and compare different analog modulation schemes for their efficiency and bandwidth.
				CO 2	Analyze the behavior of a communication system in presence of noise.
				CO 3	Investigate pulsed modulation system and analyze their system performance.
				CO 4	Investigate various multiplexing techniques.
				CO 5	Analyze different digital modulation schemes and compute the bit error performance.
Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BEC402	Analog Circuit	CO 1	Understand and design of the various amplifiers.
				CO 2	Understand the concept of feedback topologies.
				CO 3	Design the different types of oscillators.
				CO 4	Understand the functioning of OP-AMP and design OP-AMP based circuits.
				CO 5	Apply the concept of Operational amplifier to design linear and non-linear applications
Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BEC403	Signal System	CO 1	To understand the concept of continuous time and discrete time signals / Systems.
				CO 2	To understand the behavior of continuous time and discrete time signals / systems.
				CO 3	To analyze the behavior of continuous time and discrete time systems.
				CO 4	To analyze signals in complex frequency domain.
				CO 5	To understand Sampling theorem and its implications.
Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BEC451	Communication Engg. Lab	CO 1	Analyze and compare different analog modulation schemes for their modulation factor and power.
				CO 2	Study pulse amplitude modulation.
				CO 3	Analyze different digital modulation schemes and can compute the bit error performance.
				CO 4	Study and simulate the Phase shift keying.
				CO 5	Design a front end BPSK modulator and demodulator
Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BEC452	Analog Circuit Lab	CO 1	Understand the characteristics of transistors.
				CO 2	Design and analyze various configurations of amplifier circuits.
				CO 3	Design sinusoidal and non-sinusoidal oscillators.
				CO 4	Understand the functioning of OP-AMP and design OP-AMP based circuits.
				CO 5	Design ADC and DAC.
Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BEC453	Signal System Lab	CO 1	To understand plotting of basic signals using various operations like amplitude-scaling, time-scaling, etc.
				CO 2	To understand knowledge about Convolution, auto-correlation, cross-correlation of signals
				CO 3	To analyze and plot Fourier series, Fourier transform and z-transform of a given signal.
				CO 4	To acquire and understand knowledge about impulse response and step response using MATLAB
				CO 5	To analyze plot of pole-zero diagram & bode diagram using MATLAB.
				CO 1	Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements.



Bachelor of Technology (Electronics & Communication Engineering)	Fourth	BCC402	Python Programming	CO 2	Express proficiency in the handling of strings and functions
				CO 3	Determine the methods to create and manipulate Python programs by utilizing the data structures like lists, dictionaries, tuples and sets.
				CO 4	Identify the commonly used operations involving file systems and regular expressions.
				CO 5	Articulate the Object-Oriented Programming concepts such as encapsulation, inheritance and polymorphism as used in Python
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC501	Integrated Circuit	CO 1	To understand the basic concepts of analog ICs and related circuits.
				CO 2	To understand the basic concepts of digital ICs and related circuits.
				CO 3	To analyze analog and digital circuits.
				CO 4	To design OP-AMP based analog linear integrated circuits.
				CO 5	To design OP-AMP based analog non-linear integrated circuits.
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC502	Microprocessor & Microcontroller	CO 1	Demonstrate the basic architecture of 8085.
				CO 2	Illustrate the programming model of microprocessors & write program using 8085 microprocessors
				CO 3	Demonstrate the basics of 8086 Microprocessor and interface different external Peripheral Devices like timer, USART etc. with Microprocessor (8085/8086).
				CO 4	Compare Microprocessors & Microcontrollers, and comprehend the architecture of 8051 microcontroller
				CO 5	Illustrate the programming model of 8051 and implement them to design projects on real time problems.
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC503	Digital Signal Processing	CO 1	To understand the basic concepts and terminologies of digital signal processing and filter design.
				CO 2	To apply different transformation tools for the analysis of discrete time signals and systems.
				CO 3	To apply concepts of digital signal processing for finding various parameters and design of different circuits/systems.
				CO 4	To analyze different filters for digital signal processing.
				CO 5	To design different filter structures on the basic of different realization methods.
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC053	VLSI Technology	CO 1	Interpret the basics of crystal growth, wafer preparation and wafer cleaning.
				CO 2	Evaluate the process of Epitaxy and oxidation.
				CO 3	Differentiate the lithography, etching and deposition process.
				CO 4	Analyze the process of diffusion and ion implantation
				CO 5	Express the basic process involved in metallization and packaging
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC058	Optical Communication	CO 1	To understand the fundamentals of optical fiber communication system and related terminologies.
				CO 2	To calculate various parameters related to optical fiber communication.
				CO 3	To classify the various sources of optical fiber communication.
				CO 4	To apply concepts related to optical sources in solving problems.
				CO 5	To assess the various detectors of optical fiber communication.
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC551	Integrated Circuit Lab	CO 1	To study wave shaping circuits to generate different types of waveforms and to perform voltage to current, current to voltage conversion.
				CO 2	To analyze and design different non-linear applications of operational amplifiers such as filters and oscillator etc.
				CO 3	To design astable and monostable multivibrator using 555 timer IC.
				CO 4	To study operational amplifier analog IC-741 and to analyze and design different linear applications of operational amplifiers such as integrator, log, antilog amplifiers and voltage comparators.
				CO 5	To determine capture range, lock in range and free running frequency of PLL and will be able to understand and design voltage regulation methods.
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC552	Microprocessor & Microcontroller Lab	CO 1	To determine the flow of data/code throughout the system using basic instructions of 8085.
				CO 2	To implement simple programs in CCS and differentiate the features of MSP430 G series with 8085.
				CO 3	To evaluate the performance of external devices on CCS, Energia or any other software.
				CO 4	To analyze the performance of the previous setup Using MSP430 F series.
				CO 5	To create PWM applications in projects with help of UART, SPI and I2C modules.
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC553	Digital Signal Processing Lab	CO 1	To study about DSP Processors and architecture of TMS320C6713 DSP processor and Code Composer Studio.
				CO 2	To plot basic signals using MATLAB.
				CO 3	To apply CCS in matrix manipulations.
				CO 4	To calculate 4 point discrete Fourier analysis using MATLAB.
				CO 5	To implement 8 point FFT algorithm using MATLAB.
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KEC 554	Mini Project/ internship	CO 1	To generate a report based on the experiences and projects carried out with the ability to apply knowledge of Mathematics, Science, and Engineering Fundamentals.
				CO 2	To demonstrate competency in relevant engineering fields through problem identification, formulation and solution.
				CO 3	To implement skills in communication, in writing and using multimedia tools.



Engineering)				CO 4	To develop the ability to work as an individual and in group with the capacity to be a leader or manager as well as an effective team member.
				CO 5	To learn professional and ethical responsibilities of an engineer.
Bachelor of Technology (Electronics & Communication Engineering)	Fifth	KNC-501	Constitution of India, law and Engineering	CO 1	Identify and explore the basic features and modalities about Indian constitution.
				CO 2	Differentiate and relate the functioning of Indian parliamentary system at the center and state level.
				CO 3	Differentiate different aspects of Indian Legal System and its related bodies.
				CO 4	Discover and apply different laws and regulations related to engineering practices.
				CO 5	Correlate role of engineers with different organizations and governance models
Bachelor of Technology (Electronics & Communication Engineering)	Sixth	KEC-601	Digital Communication	CO 1	To understand basic concepts and terminologies of digital communication systems
				CO 2	To apply concepts of baseband, pass band digital modulation schemes in finding different parameters and performances
				CO 3	To apply fundamentals of probability theory and random process in solving different problems related to digital communications
				CO 4	To analyze baseband, pass band digital modulation schemes and corresponding performances
				CO 5	To evaluate the performances of baseband, pass band digital communication systems in noisy environment
Bachelor of Technology (Electronics & Communication Engineering)	Sixth	KEC-602	Control System	CO 1	To understand basic concepts of a control system.
				CO 2	To develop the mathematical model of various physical systems.
				CO 3	To carry out the time domain analysis of first and higher order systems.
				CO 4	To evaluate the stability of linear control systems using Routh Hurwitz Criteria and Root Locus Technique.
				CO 5	To evaluate the stability of linear control systems using different frequency domain techniques like Nyquist criteria and Bode plots.
Bachelor of Technology (Electronics & Communication Engineering)	Sixth	KEC-603	Antenna and Wave Propagation	CO 1	To understand the basics of antenna and their parameters.
				CO 2	To classify different types of antenna and their parameters.
				CO 3	To analyze basic propagation models and propagation mechanism for EM waves.
				CO 4	To evaluate performance of antennas.
				CO 5	To assess designed antenna w.r.t existing criteria.
Bachelor of Technology (Electronics & Communication Engineering)	Sixth	KEC-062	Satellite Communication	CO 1	Define and list the benefits of satellite communication.
				CO 2	Demonstrate orbital mechanics principles of satellite communication systems and solve problems related to it.
				CO 3	Describe a satellite link and identify ways to improve the link performance.
				CO 4	Classify new technologies of satellite communication systems as per given specifications.
				CO 5	Examine advanced technologies of satellite launching and describe the Indian satellite system.
Bachelor of Technology (Electronics & Communication Engineering)	Sixth	KEC-651	Digital Communication LAB	CO 1	To plot a triangular and square wave using Fundamental frequency and its harmonics.
				CO 2	To understand various baseband digital modulation and demodulation techniques such as PCM and Delta Modulation.
				CO 3	To understand the line coding fundamentals i.e. coding and decoding of NRZ and Manchester formats.
				CO 4	To understand various pass band digital modulation and demodulation techniques such as ASK, FSK & PSK.
				CO 5	To understand and perform QPSK, DPSK, 8PSK and 16PSK Techniques and convolutional coding using MATLAB.
Bachelor of Technology (Electronics & Communication Engineering)	Sixth	KEC-652	Control System LAB	CO 1	To understand control Tool box in MATLAB.
				CO 2	To determine various mathematical operations using MATLAB.
				CO 3	To analyze a system in time domain using MATLAB.
				CO 4	To analyze a system in frequency domain using MATLAB
				CO 5	To determine the State Space representation of the given transfer function.
Bachelor of Technology (Electronics & Communication Engineering)	Sixth	KEC-653A	Measurement & Instrumentation LAB	CO 1	To understand practical performance of the operational features of various analog and digital test and measurement equipments.
				CO 2	To analysis various standard bridges for measurement of unknown resistance, inductance and capacitance, Q factor.
				CO 3	To measure true RMS value using analog meter using digital Multimeters.
				CO 4	To study of characteristics of different types of transducers, generation of waveforms and calibration procedures.
				CO 5	To use Resistance temperature detector (RTD) for measurement of temperature.
Bachelor of Technology (Electronics & Communication Engineering)	Sixth	KOE-060	Idea to Business Model	CO 1	Enhance creative knowledge of students regarding selection of a business idea and it's implementation process
				CO 2	Acquire knowledge on entrepreneurship development, its Pro's and con's.
				CO 3	Acquire basic knowledge on how to become an Entrepreneur.
				CO 4	Develop knowledge on Production systems and it's sustainability through production, planning and control (PPC)
				CO 5	Develop appropriate business model and apply in a better way.
Bachelor of Technology (Electronics & Communication Engineering)	Seventh	KHU-702	Rural Development Administration And Planning	CO 1	Students can understand the definitions, concepts and components of Rural Development
				CO 2	Students will know the importance, structure, significance, resources of Indian rural economy.
				CO 3	Students will have a clear idea about the area development programmes and its impact.
				CO 4	Students will be able to acquire knowledge about rural entrepreneurship.
				CO 5	Students will be able to understand about the using of different methods for human resource planning



Bachelor of Technology (Electronics & Communication Engineering)	Seventh	KEC073	Optical Network	CO 1	To define basic concepts about the generation, multiplexing and switching techniques of Optical Networks and Non linear effects encountered during transmission.
				CO 2	To classify ideas or concepts about different components and their principle of operation, grating techniques, cross talk problem and its reduction.
				CO 3	To use information to operate SONET and SDH optical networks, ATM, IP, WDM, optical amplifiers, optical ADD/DROP MUX.
				CO 4	To draw connection among ideas to relate WDM Network cost trade off, network survivability, layer protection and overview of HFC, FTTC and PON evolution.
				CO 5	To justify a stand or defend to select optical switching, OTDM and deployment consideration of networks.
Bachelor of Technology (Electronics & Communication Engineering)	Seventh	KEC076	Wireless & Mobile Communication	CO 1	To understand the basic concepts of wireless & mobile communication and related terminologies.
				CO 2	To examine different models of channels and equalizers used in WMC.
				CO 3	To explain & differentiate the concepts of spread spectrum modulation
				CO 4	To apprise the concepts of different multiplexing and accessing Techniques used in WMC.
				CO 5	To develop the different concepts of WMC systems for solving related problems.
Bachelor of Technology (Electronics & Communication Engineering)	Seventh	KEC751C	Optical System & Networking Lab	CO 1	To remember the difference between analog and digital link.
				CO 2	To understand the different losses in optical fiber communications.
				CO 3	To understand Time Division Multiplexing and role of coding / decoding in framing.
				CO 4	To analyze radiation pattern of Light emitting diode (LED)
				CO 5	To analyze modulation and demodulation of analog/ digital signal in optical fiber.
Bachelor of Technology (Electronics & Communication Engineering)	Seventh	KEC752	Mini Project or Internship Assessment	CO 1	To generate a report based on the experiences and projects carried out with the ability to apply knowledge of Mathematics, Science, and Engineering Fundamentals.
				CO 2	To demonstrate competency in relevant engineering fields through problem identification, formulation and solution.
				CO 3	To implement skills in communication, in writing and using multimedia tools.
				CO 4	To develop the ability to work as an individual and in group with the capacity to be a leader or manager as well as an effective team member.
				CO 5	To learn professional and ethical responsibilities of an engineer.
Bachelor of Technology (Electronics & Communication Engineering)	Seventh	KEC753	Project-I	CO 1	To apply knowledge gained during II,III and IV year for project development.
				CO 2	To design software for making new project related to electronics and communication.
				CO 3	To Design new project using tools and kits.
				CO 4	To develop and fabricate new project.
				CO 5	To analyze, communicate and present the project.
Bachelor of Technology (Electronics & Communication Engineering)	Eighth	KOE-083	ENTREPRENEURSHIP DEVELOPMENT	CO 1	To summarize the different methods to assess the attractiveness of business opportunities.
				CO 2	To explain the various characteristics for an attractive business opportunity and common pitfalls during the entrepreneurial process.
				CO 3	To design, organize, and lead a team with the goal of bringing new products and services to market.
				CO 4	To write report on a business plan of a new venture of product and service industry.
				CO 5	To analyze the concepts of systematic process to select and screen a business idea and assess its viability.
Bachelor of Technology (Mechanical Engineering)	Third	BME301	THERMODYNAMICS	CO 1	To understand the basic terms of thermodynamics:
				CO 2	To apply I law to various energy conversion devices:
				CO 3	To evaluate the changes in properties of substances in various processes:
				CO 4	To understand the difference between high grade and low-grade energies
				CO 1	Understand the application of mass and momentum conservation laws for fluid flows.
Bachelor of Technology (Mechanical Engineering)	Third	BME302	FLUID MECHANICS AND FLUID MACHINES	CO 2	Understand the importance of dimensional analysis.
				CO 3	Evaluate the velocity and pressure variations in various types of simple flows.
				CO 4	Mathematically analyze the flow in water pumps and turbines.
				CO 5	Understand about the functioning of centrifugal and reciprocating pumps.
				CO 1	Students will be able to identify the crystal structure and measure the mechanical properties of materials.
Bachelor of Technology (Mechanical Engineering)	Third	BME303	MATERIALS ENGINEERING	CO 2	Students will be able to test the various failures of materials.
				CO 3	Students will be able to identify the mechanical properties based on composition of micro-constituents depicted in the phase-diagram.
				CO 4	Students will understand the concept of improving the mechanical properties through heat treatment.
				CO 5	Students will learn the structure and properties of alloys and composites.
				CO 1	Understand the principles and performance characteristics of flow and thermal devices.
Bachelor of Technology (Mechanical Engineering)	Third	BME351	FLUID MECHANICS LAB	CO 2	Know about the measurement of the fluid properties
				CO 3	Understand and analyze various properties of fluids
				CO 4	Evaluate the performance characteristics of fluid/thermal machinery
				CO 5	Evaluate the velocity and pressure variations in various types of simple flows.
				CO 1	Students will be able to perform different destructive and non-destructive testing methods to measure various mechanical properties.





Bachelor of Technology (Mechanical Engineering)	Third	BME352	MATERIALS TESTING LAB	CO 2	Students will be able to analyse the effect of different heat-treatment processes on the Hardness.
				CO 3	Students will be able to simulate the material using simulating software / measure the mechanical properties of 3-D printed components.
Bachelor of Technology (Mechanical Engineering)	Third	BME353	COMPUTER AIDED MACHINE DRAWING-I LAB	CO 1	Understand and apply 2D software to develop a part model
				CO 2	Understand about temporary and permanent fasteners
				CO 3	Understand the need for free hand sketching, Free hand sketching of foundation bolts etc.
				CO 4	Create assembly drawing of simple machine elements like rigid or flexible coupling
				CO 5	Create 2D drawings and assemblies of various machine components
Bachelor of Technology (Mechanical Engineering)	Fourth	BME401	APPLIED THERMODYNAMICS	CO 1	To learn about Air Standard Cycle.
				CO 2	To learn about of I law for reacting systems and heating value of fuels.
				CO 3	To learn about gas and vapor cycles
				CO 4	To learn about gas dynamics of air flow and steam through nozzles.
				CO 5	To analyze the performance of steam turbines.
Bachelor of Technology (Mechanical Engineering)	Fourth	BME402	ENGINEERING MECHANICS & STRENGTH OF MATERIAL	CO 1	Understand the force systems and application of force equilibrium to various two-dimensional problems.
				CO 2	Understand the concept of stress and strain under different loading conditions.
				CO 3	Determine the principal stresses and strains in structural members
				CO 4	Understand and determine the stresses, slope, and deflection of the transversely loaded members
				CO 5	Apply the concepts of stresses and strain in solving problems related to springs, buckling of columns and thin and thick cylinders.
Bachelor of Technology (Mechanical Engineering)	Fourth	BME403	MANUFACTURING PROCESSES	CO 1	Students will learn the various conventional manufacturing processes / casting and forming processes.
				CO 2	Students will understand the concepts of metal cutting and CNC machining.
				CO 3	Students will comprehend the knowledge of grinding and super finishing processes.
				CO 4	Students will understand the concepts of metal joining processes.
				CO 5	Students will learn the concepts of unconventional machining processes.
Bachelor of Technology (Mechanical Engineering)	Fourth	BME451	APPLIED THERMODYNAMICS LAB	CO 1	To understand the principles of various boilers:
				CO 2	To understand the basic principles IC engines and determination of various performance parameters of IC Engines:
				CO 3	To understand the principles of steam engine and Steam & Gas Turbine:
Bachelor of Technology (Mechanical Engineering)	Fourth	BME452	MANUFACTURING PROCESSES LAB	CO 1	Students will be able to make the component using casting and finishing methods.
				CO 2	Students will be able to make the component using metal cutting / unconventional machining methods.
				CO 3	Students will be able to make the component using metal joining processes
Bachelor of Technology (Mechanical Engineering)	Fourth	BME453	COMPUTER AIDED MACHINE DRAWING-II LAB	CO 1	Understand and apply 3D software to develop a part model
				CO 2	Understand conventional representation of machine components, and welded joints
				CO 3	Understand and apply the basis of fit or limit system
				CO 4	Understand about Plummer Block Bearing, Machine Vice, Screw Jack, Engine Stuffing box.
				CO 5	Create 3D part models and assemblies of various machine components
Bachelor of Technology (Mechanical Engineering)	Fifth	KME 501	Heat and Mass Transfer	CO 1	Understand the fundamentals of heat and mass transfer.
				CO 2	Apply the concept of steady and transient heat conduction.
				CO 3	Apply the concept of thermal behavior of fins.
				CO 4	Apply the concept of forced and free convection.
				CO 5	Apply the concept of radiation for black and non-black bodies.
				CO 6	Conduct thermal analysis of heat exchangers.
Bachelor of Technology (Mechanical Engineering)	Fifth	KME 502	Strength of Material	CO 1	Understand the concept of stress and strain under different conditions of loading
				CO 2	Determine the principal stresses and strains in structural members
				CO 3	Determine the stresses and strains in the members subjected to axial, bending and torsional loads
				CO 4	Apply the concepts of stresses and strain in solving problems related to springs, column and pressure vessels
				CO 5	Calculate the slope, deflection and buckling of loaded members
				CO 6	Analyze the stresses developed in straight and curved beams of different cross sections
Bachelor of Technology (Mechanical Engineering)	Fifth	KME 503	Industrial Engineering	CO 1	Understand the concept of production system, productivity, facility and process planning in various industries
				CO 2	Apply the various forecasting and project management techniques
				CO 3	Apply the concept of break-even analysis, inventory control and resource utilization using queuing theory
				CO 4	Apply principles of work study and ergonomics for design of work systems
				CO 5	Formulate mathematical models for optimal solution of industrial problems using linear programming approach
Bachelor of Technology (Mechanical Engineering)	Fifth	KME 504	Heat and Mass Transfer Lab	CO 1	Apply the concept of conductive heat transfer. K3
				CO 2	Apply empirical correlations for both forced and free convection to determine the value of convection heat transfer coefficient
				CO 3	Apply the concept of radiation heat transfer for black and grey body.
				CO 4	Analyze the thermal behaviour of parallel or counter flow heat exchangers
				CO 5	Conduct thermal analysis of a heat pipe



Bachelor of Technology (Mechanical Engineering)	Fifth	KME 051	Computer Integrated Manufacturing	CO 1 Understand the basic concepts of automation, computer numeric control machining CO 2 Understand the algorithms of line generation, circle generation, transformation, curve, surface modeling and solid modeling CO 3 Understand group technology, computer aided process planning, flexible manufacturing, Industry 4.0, robotics CO 4 Understand information system and material handling in CIM environment, rapid prototyping CO 5 Apply the algorithms of line & circle generation and geometric transformations CO 6 Develop CNC program for simple operations
Bachelor of Technology (Mechanical Engineering)	Fifth	KME 055	Advance welding	CO 1 Understand the physics of arc welding process and various operating characteristics of welding power source. CO 2 Analyse various welding processes and their applications. CO 3 Apply the knowledge of welding for repair & maintenance, along with the weldability of different materials. CO 4 Apply the concept of quality control and testing of weldments in industrial environment. CO 5 Evaluate heat flow in welding and physical metallurgy of weldments.
Bachelor of Technology (Mechanical Engineering)	Sixth	KME 601	Refrigeration & Air Conditioning	CO 1 Understand the basics concepts of Refrigeration & Air-Conditioning and its future prospects. CO 2 Explain the construction and working of various components in Refrigeration & Air-Conditioning systems. CO 3 Understand the different types of RAC systems with their respective applications. CO 4 Apply the basic laws to the thermodynamic analysis of different processes involved in Refrigeration and Air-Conditioning. CO 5 Apply the basic concepts to calculate the COP and other performance parameters for different RAC systems CO 6 Analyze the effects of performance parameters on COP.
Bachelor of Technology (Mechanical Engineering)	Sixth	KME 602	Machine Design	CO 1 Recall the basic concepts of Solid Mechanics to understand the subject. CO 2 Classify various machine elements based on their functions and applications. CO 3 Apply the principles of solid mechanics to machine elements subjected to static and fluctuating loads. CO 4 Analyze forces, bending moments, twisting moments and failure causes in various machine elements to be designed. CO 5 Design the machine elements to meet the required specification.
Bachelor of Technology (Mechanical Engineering)	Sixth	KME 603	Theory of Machines	CO 1 Understand the principles of kinematics and dynamics of machines. CO 2 Calculate the velocity and acceleration for 4-bar and slider crank mechanism CO 3 Develop cam profile for followers executing various types of motions CO 4 Apply the concept of gear, gear train and flywheel for power transmission CO 5 Apply dynamic force analysis for slider crank mechanism and balance rotating & reciprocating masses in machines. CO 6 Apply the concepts of gyroscope, governors in fluctuation of load and brake & dynamometer in power transmission
Bachelor of Technology (Mechanical Engineering)	Sixth	KME 651	Refrigeration & Air Conditioning Lab	CO 1 Determine the performance of different refrigeration and air-conditioning systems. CO 2 Apply the concept of psychrometry on different air cooling systems. CO 3 Interpret the use of different components, control systems and tools used in RAC systems CO 4 Demonstrate the working of practical applications of RAC systems.
Bachelor of Technology (Mechanical Engineering)	Sixth	KME 652	Machine Design Lab	CO 1 Apply the principles of solid mechanics to design various machine Elements subjected to static and fluctuating loads CO 2 Write computer programs and validate it for the design of different machine elements CO 3 Evaluate designed machine elements to check their safety.
Bachelor of Technology (Mechanical Engineering)	Sixth	KME 653	Theory of Machines Lab	CO 1 Demonstrate various mechanisms, their inversions and brake and clutches in automobiles CO 2 Apply cam-follower mechanism to get desired motion of follower. CO 3 Apply the concepts of gears and gear train to get desired velocity ratio for power transmission. CO 4 Apply the concept of governors to control the fuel supply in engine. CO 5 Determine the balancing load in static and dynamic balancing problem
Bachelor of Technology (Mechanical Engineering)	Sixth	KME 061	Nondestructive Testing	CO 1 Understand the concept of destructive and Non-destructive testing methods. CO 2 Explain the working principle and application of die penetrant test and magnetic particle inspection. CO 3 Understand the working principle of eddy current inspection. CO 4 Apply radiographic techniques for testing. CO 5 Apply the principle of Ultrasonic testing and applications in medical and engineering areas.
Bachelor of Technology (Mechanical Engineering)	Seventh	KME 071	Additive manufacturing	CO 1 Understanding the basics of additive manufacturing/rapid prototyping and its advantages and disadvantages CO 2 Understanding the role of additive manufacturing in the design process and the implications for design. CO 3 Understanding the processes used in additive manufacturing for a range of materials and applications CO 4 Understand the various software tools, processes and techniques that enable advanced/additive manufacturing and personal fabrication. CO 5 Apply knowledge of additive manufacturing for various real-life applications
Bachelor of Technology (Mechanical Engineering)	Seventh	KME 076	Power Plant Engineering	CO 1 Understand the different sources of power generation and their impact on environment. CO 2 Understand the elements of power generation using conventional and non-conventional energy sources. CO 3 Understand the concepts of electrical systems used in power plants. CO 4 Apply the basic concepts of thermodynamics to measure the performance of different power plants. CO 5 Determine the performance of power plants based on load variations.



Bachelor of Technology (Mechanical Engineering)	Seventh	KME 751	Measurement & Metrology Lab	CO 1	Understand the basic principles of instrumentation for measurement of surface finish, strain, temperature, pressure and flow.
				CO 2	Understand the principle and operation of Coordinate Measuring Machine (CMM).
				CO 3	Apply Sine Bar, Slip Gauges, Bevel Protractor, Stroboscope, Dial Indicator etc. for measurement of different attributes.
				CO 4	Apply the basic concepts of limits, fits & tolerances for selective assembly.
Bachelor of Technology (Mechanical Engineering)	Seventh	KHU701	RURAL DEVELOPMENT: ADMINISTRATION AND PLANNING	CO 1	Students can understand the definitions, concepts and components of Rural Development
				CO 2	Students will know the importance, structure, significance, resources of Indian rural economy
				CO 3	Students will have a clear idea about the area development programmes and its impact.
				CO 4	Students will be able to acquire knowledge about rural entrepreneurship.
				CO 5	Students will be able to understand about the using of different methods for human resource planning
Bachelor of Pharmacy	First	BP101T	Human Anatomy and Physiology– Theory	CO1	Outline the fundamental of human anatomy and physiology
				CO2	Explain the gross morphology and structural of various organs of human body
				CO3	Summarise the coordinated working pattern of different systems of human body
				CO4	Identify the disorder related to various systems of human body
				CO5	Examine the functions of different systems of the human body
Bachelor of Pharmacy	First	BP102T	Pharmaceutical Analysis I– Theory	CO1	Explain basic fundamentals of analytical chemistry.
				CO2	Summarize applications of volumetric, gravimetric and electrochemical analysis.
				CO3	Apply various principles of volumetric, gravimetric and electrochemical methods of analysis.
				CO4	Examine various parameters related to analysis of pharmaceutical compounds.
				CO5	Analyze various principles related to volumetric titrations in analysis.
Bachelor of Pharmacy	First	BP103T	Pharmaceutics I – Theory	CO1	Outline the fundamentals of pharmaceutics and guidelines thereof.
				CO2	Explain various dosage forms, and raw materials used in the dosage form design.
				CO3	Identify various challenges, problems and their solutions in dosage form design.
				CO4	Model formulations of various dosage forms and advantages/disadvantages.
				CO5	Examine the applications and utility of various dosage forms.
Bachelor of Pharmacy	First	BP104T	Pharmaceutical Inorganic Chemistry– Theory	CO1	Outline basic fundamentals of pharmaceutical inorganic chemistry.
				CO2	Summarize functions of various physiological ions in human body.
				CO3	Explain radio pharmaceuticals and their applications.
				CO4	Identify mode of preparations, properties and applications of various inorganic pharmaceutical compounds.
				CO5	Explain impurities and qualitative, quantitative and semi quantitativelimits of inorganic pharmaceuticals.
Bachelor of Pharmacy	First	BP105T	Communication Skills – Theory	CO1	Students will be proficient in English language and in converting into actionable knowledge.
				CO2	Students will be able to appreciate and practice the unique qualities of professional rhetoric and writing style. Developing individual speech delivery and stylization.
				CO3	Students will be confident and develop effective speaking ability for presentations and develop thinking .
				CO4	Writing skills & innovative ideas. Propagating skills for interviews. Students will be able to master the skill of Curriculum-Vitae, Resume, and Bio-Data and communicate effectively with report writing, documentation and giving and receiving clear instructions.
				CO5	Students will be participative and assertive. Students will be able to understand logical issues and value system.
Bachelor of Pharmacy	First	BP106RMT	Remedial Mathematics – Theory	CO1	Understand the theory used in application of Partial Fraction in Chemical Kinetics and Pharmacokinetics, logarithm to solving pharmaceutical problems
				CO2	Understand the concepts of Matrices and determinant used in application to solving Pharmacokinetic equations
				CO3	Understand the concepts of function, limit, continuity, differentiability and Integration used in application of mathematics in Pharmacy
				CO4	Understand the concepts of Coordinate Geometry used in application of mathematics in Pharmacy
				CO5	Understand the concept of Differential equations and Laplace transform used in application to solving chemical kinetics and Pharmacokinetics equations
Bachelor of Pharmacy	First	BP106RBT	Remedial Biology – Theory	CO1	Understand the biology of living organisms.
				CO2	Classify biological systems based on their role and need for living.
				CO3	Explain morphological characters of various biological systems.
				CO4	Outline various products of biological systems and their functions.
Bachelor of Pharmacy	First	BP107P	Human Anatomy and Physiology – Practical	CO1	Summarize various physiological processes of biological systems.
				CO2	Demonstrate the principle and working of various instruments used to assess physiology of human body
				CO3	Identify microscopical feature of various types of cells and tissue
				CO4	Identify gross anatomy and physiology of human skeletal system
				CO5	Evaluate the hematological parameter of human body
Bachelor of Pharmacy	First	BP108P	Pharmaceutical Analysis I – Practical	CO1	Evaluate physiological parameter of CVS
				CO2	Apply methods of preparation for various Normal and Molar solutions.
				CO3	Demonstrate methods of standardization of a solution by using volumetric analysis



				CO4	Understand methods of standardization of a solution by using electro analytical method.
				CO5	Make use of volumetric analysis for quantitative estimation of a sample
Bachelor of Pharmacy	First	BP109P	Pharmaceutics I – Practical	CO1	Summarize the fundamentals of various dosage forms.
				CO2	Outline the raw materials and packaging materials used in the dosage form design.
				CO3	Develop various pharmaceutical dosage forms.
				CO4	Model various labels used for different dosage forms.
Bachelor of Pharmacy	First	BP110P	Pharmaceutical Inorganic Chemistry– Practical	CO1	Illustrate the methods of preparation of inorganic compounds.
				CO2	Identification of inorganic compounds with the help of limit tests.
				CO3	Analyze physical and chemical properties of inorganic compounds.
				CO4	Determination of inorganic compounds with the help of identification tests.
				CO5	Evaluate the various parameters to examine the purity of inorganic compounds.
Bachelor of Pharmacy	First	BP111P	Communication Skills – Practical	CO1	Development of conversational skills for seminars/workshops.
				CO2	Propagating skills for interviews under suitable interactive patterns.
				CO3	Initiating public speaking skills based on rhythmic patterns and perfection in delivery.
				CO4	Preparation for technical paper/professional representation based on proper stress intonation mechanics.
				CO5	Developing individual speech delivery and stylization.
Bachelor of Pharmacy	First	BP112RBP	Remedial Biology– Practical	CO1	Demonstrate the principle and working of various instruments used to assess physiology of living organisms.
				CO2	Identify the bones in human skeleton system.
				CO3	Identify various microscopic techniques for determination of different morphological characteristics of plants.
				CO4	Evaluate hematological parameters of human body.
Bachelor of Pharmacy	Second	BP-201T	Human Anatomy & Physiology- II	CO1	Summarize the coordinated working pattern of different system of human body
				CO2	Outline the formation and role of energetic.
				CO3	Identify the disorder related to various system of human body.
				CO4	Examine the functions of different system of human body.
Bachelor of Pharmacy	Second	BP-202T	Pharmaceutical Organic Chemistry I	CO1	Explain basic concepts of Organic Chemistry.
				CO2	Compare organic compounds based on their structure, uses and qualitative tests.
				CO3	Model the synthesis and mechanism of reactions of organic compounds.
				CO4	Analyze the orientation, reactivity and stability of organic compounds.
				CO5	Inspect the physical and chemical behaviour of organic compounds.
Bachelor of Pharmacy	Second	BP-203T	Biochemistry	CO1	Understand the basic concepts of biomolecules such as classification, chemical nature and biological role.
				CO2	Explain metabolic pathways of various biomolecules in physiological condition.
				CO3	Make use of the biosynthesis of various biological substances.
				CO4	Analyze various disorders associated with the metabolism of biomolecules.
				CO5	Examine structure and functions of biomolecules, kinetics of enzyme catalysed reactions and enzyme inhibitions and regulatory process.
Bachelor of Pharmacy	Second	BP204T	Pathophysiology	CO1	Explain basic pathological terminology involved in the pathogenesis of various diseases.
				CO2	Illustrate gross pathological and physiological changes during cell injury, inflammation and infection
				CO3	Identify the role of various chemicals , neurotransmitter, hormones, enzymes or microorganisms in the development of various diseases in the body
				CO4	Examine the role of histopathology, biochemical parameters and clinical sign for the inference of various diseases
				CO5	Assess the role of various etiological factors including genetics and immunity in the pathogenesis of diseases
Bachelor of Pharmacy	Second	BP205T	Computer Applications in Pharmacy	CO1	Students will be able recall and infer the fundamentals of Computer, its components, structure and types.
				CO2	Students will be able recall and interpret the number systems, its conversion and calculations and the concept of the information systems and software's used in different field and its processes.
				CO3	Students will be able to create a personal HTML webpage, create invoice tables, Generate reports from patients database, and Exporting Tables, Queries, Forms and Reports to web pages and to XML pages.
				CO4	Students will be able recall, infer and use the knowledge of the various types of application of computers in pharmacy.
				CO5	Students will be able identify and apply the knowledge of the Bioinformatics Databases, Concept and Impact of Bioinformatics in Vaccine Discovery and know the Computers as data analysis in Preclinical development like CDS, LIMS, TMS etc.
Bachelor of Pharmacy	Second	BP206T	Environmental Sciences	CO1	Explain the awareness about environmental problems among learners.
				CO2	Explain the basic knowledge about the environment and its allied problems.
				CO3	Build an attitude of concern for the environment.
				CO4	Develop skills to help the concerned individuals in identifying and solving environmental problems.
				CO5	Conclude to attain harmony with Nature.
				CO1	Explain working pattern of different organs of each system using specimen and models
				CO2	Demonstrate the general neurological examination.





Bachelor of Pharmacy	Second	BP207P	Human Anatomy and Physiology II	CO3	Perform the hematological tests.
				CO4	To examine the different types of taste
				CO5	The identification, counting of various integral components of the body.
Bachelor of Pharmacy	Second	BP208P	Pharmaceutical Organic Chemistry I	CO1	Identify the elements from given unknown sample.
				CO2	Identify functional groups from given unknown sample.
				CO3	Examine the pharmaceutical compounds by preparing them from different organic scaffolds.
Bachelor of Pharmacy	Second	BP209P	Biochemistry	CO1	Apply the methods for the preparation of buffers and measurement of pH.
				CO2	Analyzing carbohydrate and proteins qualitatively and quantitatively.
				CO3	Examine the abnormal constituents of urine qualitatively.
				CO4	Determine various constituents of blood quantitatively.
				CO5	Determine salivary amylase activity and factors affecting it.
Bachelor of Pharmacy	Second	BP210P	Computer Applications in Pharmacy	CO1	Preparing documents in word processor.
				CO2	Preparing Web page using HTML.
				CO3	Creating tables in Access database.
				CO4	Creating queries in Access data base.
				CO5	Creating Report in Access data base.
Bachelor of Pharmacy	Third	BP301T	Pharmaceutical Organic Chemistry II- Theory	CO1	Outline the fundamental principles of organic chemistry that include structure and uses of specific organic compounds.
				CO2	Explain the synthesis and chemical reactions of organic compounds along with its mechanism.
				CO3	Make use of fundamental principles of organic chemistry for determining the stability and character of organic compounds.
				CO4	Analyze the evidences in derivation of structure of organic compounds.
				CO5	Compare chemical behavior of organic compounds.
Bachelor of Pharmacy	Third	BP302T	Physical Pharmaceutics I – Theory	CO1	Explain the physicochemical properties of drugs molecules in designing of dosage form.
				CO2	Interpret the physical chemical parameters associated with quality control of dosage form.
				CO3	Make use of physicochemical properties in formulations development and evaluations of dosage form.
				CO4	Examine the principles of physical pharmaceutics to improve the physicochemical properties.
				CO5	Analyze the challenges associated with physicochemical properties in designing of stable, safe, and effective dosage forms.
Bachelor of Pharmacy	Third	BP303T	Pharmaceutical Microbiology – Theory	CO1	Illustrate the fundamental principles of pharmaceutical microbiology
				CO2	Explain the methods of identification, cultivation and preservation of various microorganisms
				CO3	Select the various microbiological methods used in pharmaceutical microbiology
				CO4	Examine the growth of different microorganisms based on various environmental factors
				CO5	Determine the efficiency of sterilization, disinfectant, antiseptics and standardization of antibiotics
Bachelor of Pharmacy	Third	BP304T	Pharmaceutical Engineering – Theory	CO1	Outline the fundamentals of various unit operations used in pharmaceutical industry.
				CO2	Explain the principle, construction and working of various equipments used in pharmaceutical industry.
				CO3	Identify the applications of various equipments involved in respective unit operation used in pharmaceutical industry.
				CO4	Analyze the merits and demerits of various equipments used in pharmaceutical industry for better output.
				CO5	Compare the different equipments used in same unit operation for better result in accordance to different types of feeds.
Bachelor of Pharmacy	Third	BP305P	Pharmaceutical Organic Chemistry II – Practical	CO1	Make use of common laboratory techniques, including reflux, distillation, steam distillation, recrystallization, vacuum filtration, melting point determination etc.
				CO2	Experiment with broad range of traditional organic reactions at the micro scale.
				CO3	Examine the collected data to determine the identity, purity, and percent yield of products and to summarize findings in writing in a clear and concise manner.
				CO4	Estimate oils and fats with the help of various analytical constants.
Bachelor of Pharmacy	Third	BP306P	Physical Pharmaceutics I – Practical	CO1	Determine pharmaceutical properties like true density, bulk density, porosity and angle of repose.
				CO2	Evaluate the partition coefficient and solubility of drugs.
				CO3	Determine the surface tension by using different methods.
				CO4	Evaluate the % composition of sodium chloride of the solution and stability constant and donor acceptor ratio of copper- glycine complex.
				CO5	Determine the CMC and HLB no. by using different surfactants.
Bachelor of Pharmacy	Third	BP307P	Pharmaceutical Microbiology – Practical	CO1	Interpret the fundamental principles of pharmaceutical microbiology
				CO2	Demonstrate the methods of identification, cultivation and preservation of various microorganisms
				CO3	Experiment the various microbiological methods used in pharmaceutical industry
				CO4	Analyze the growth of different microorganisms based on various environmental factors
				CO5	Determine the efficiency of sterilization, disinfectant, antiseptics and standardization of antibiotics
Bachelor of Pharmacy	Third	BP 308P	Pharmaceutical Engineering – Practical	CO1	Construct the various curves related with different unit operations.
				CO2	Make use of working of various unit operations.
				CO3	Identify the effects of different pharmaceutical aids and conditions on the process of various unit operations.





Bachelor of Pharmacy	Third	KVE301	Human Values & Professional Ethics	CO4	Compare various parameters in different unit operations used in pharmaceutical industries.
				CO1	Understand the need, concept and content of value-education in individual's life and modifies their aspirations for happiness & prosperity.
				CO2	Apply the holistic perception of harmony at all four levels of living (self, family, society and nature).
				CO3	Analyze the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity.
				CO4	Examine the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society.
Bachelor of Pharmacy	Fourth	BP401T	Pharmaceutical Organic Chemistry III – Theory	CO5	Justify Holistic understanding in terms of ethical human conduct, trustful and mutually fulfilling human behaviour and mutually enriching interaction with Nature.
				CO1	Illustrate the basic concept of Stereoisomerism in organic compounds.
				CO2	Understand the structure, nomenclature, Chemistry and medicinal uses of heterocyclic compounds.
				CO3	Model the synthetic procedure and reactions of heterocyclic compounds.
				CO4	Analyze stereo chemical features for determination of configuration of organic compounds.
Bachelor of Pharmacy	Fourth	BP402T	Medicinal Chemistry I – Theory	CO5	Analyze the reactions of synthetic importance.
				CO1	Explain basic concepts and properties of medicinal compounds.
				CO2	Model synthetic protocol of medicinal agents/drugs.
				CO3	Analyze medicinal compounds/drugs on the basis of their structural modification.
				CO4	Analyze mode of action and uses of medicinal compounds.
Bachelor of Pharmacy	Fourth	BP403T	Physical Pharmaceutics II – Theory	CO5	Evaluate the structure activity relationship (SAR) of medicinal agents/drugs.
				CO1	Understand the physical and physicochemical properties of drug molecules for designing of dosage form.
				CO2	Make use of physicochemical properties of dosage form.
				CO3	Analyze the role of colloidal, coarse dispersion, micromeritics, rheology, and drug stability.
				CO4	Examine the reaction kinetics and expiry date of the formulations.
Bachelor of Pharmacy	Fourth	BP404T	Pharmacology I – Theory	CO5	Evaluate the physicochemical properties of dosage form.
				CO1	Interpret general pharmacological concepts for understanding the effects of drug
				CO2	Explain the mechanism of drug action at organ system or sub cellular or macromolecular levels.
				CO3	Make use of basic pharmacodynamics concepts in the prevention and treatment of various diseases.
				CO4	Analyse the basis of classification of drugs, adverse effects, clinical indications, drug interactions, dosage, contraindications and routes of administration of different classes of drugs.
Bachelor of Pharmacy	Fourth	BP405T	Pharmacognosy and Phytochemistry I – Theory	CO5	Evaluate the pharmacokinetics parameters of drugs such as absorption, distribution, metabolism and excretion.
				CO1	Classify the various categories of herbal drugs in alternative system of medicines.
				CO2	Illustrate the cultivation, collection, processing, storage and conservation of medicinal plants.
				CO3	Interpret the primary and secondary metabolites of selected crude drugs.
				CO4	Apply the plant tissue culture in pharmacognosy.
Bachelor of Pharmacy	Fourth	BP406P	Medicinal Chemistry I – Practical	CO5	Evaluate the qualitative and quantitative analysis of crude drugs.
				CO1	Apply the synthetic procedures for the synthesis of drugs mentioned in syllabus.
Bachelor of Pharmacy	Fourth	BP407P	Physical Pharmaceutics II – Practical	CO2	Examine the quantitative assay of drugs by titrimetric method.
				CO1	To experiment with Drug stability studies.
				CO2	To experiment with the micromeritics properties of powders.
				CO3	To determine the rheological property of solids and liquids.
Bachelor of Pharmacy	Fourth	BP408P	Pharmacology I – Practical	CO4	To determine the Sedimentation volume of coarse dispersions.
				CO1	Understand commonly used instruments, different routes of drug administration in mice or rats and correlation of pharmacology with other biomedical sciences.
				CO2	Demonstrate the working of different instruments used in pharmacology lab for muscle relaxant, locomotor and convulsant activity. Maintenance and handling techniques of commonly used laboratory animals.
				CO3	Explain common and standard techniques used in experimental pharmacology- Blood withdrawal, serum and plasma separation, anesthetics and euthanasia used for animal studies.
				CO4	Develop rational behind how effect of drug is potentiated or inhibited in physiological systems or pathological states.
Bachelor of Pharmacy	Fourth	BP409P	Pharmacognosy and Phytochemistry I – Practical	CO5	Examine the effect of drugs on animals by computer simulation (CDs or Videos and softwares)
				CO1	Understand commonly used instruments, section cutting and adjustment of microscope.
				CO2	To determine the leaf constants and cell contents with the help of microscope.
				CO3	To evaluate the crude drugs on the basis of qualitative and quantitative tests.
Bachelor of Pharmacy	Fourth	BP501T	Medicinal Chemistry II – Theory	CO4	To experiment the chemical tests of organized crude drugs with the help of various chemicals.
				CO1	Understand the basic concepts and classification of medicinal compounds.
				CO2	Understand the mechanism of action of various classes of medicinal compounds
				CO3	Identify the structure and applications of medicinal compounds.



				CO4	Model the synthetic protocols of medicinal compounds.
				CO5	Analyze medicinal compounds based on SAR.
Bachelor of Pharmacy	Fifth	BP502T	Industrial Pharmacy I – Theory	CO1	Explain the concept and utility of preformulation studies, pharmacopoeial specifications, techniques, and equipment used in the formulation of various dosage forms.
				CO2	Extend the fundamentals, nature and characteristics of excipients, cosmeceuticals, dosage forms, and packaging materials.
				CO3	Utilize the established procedures and technology to formulate and prepare cosmeceuticals, and various dosage forms.
				CO4	Analyze the selection of packaging materials, complexities and challenges related to the formulation of dosage forms and cosmetics.
				CO5	Evaluate the pharmaceutical dosage form and packaging materials for quality and stability, and compare them with standards prescribed in the pharmacopoeia.
Bachelor of Pharmacy	Fifth	BP503T	Pharmacology II – Theory	CO1	Interpret physiological alterations and normal physiology with drug intervention from different classes of drugs.
				CO2	Summarize the bioassay, biosynthesis, storage, release, Classification, mechanism of action, biotransformation, commercial preparations, indications of the drugs
				CO3	Construct a suitable model drug therapy for multiple complications and comorbid conditions.
				CO4	Analyze the pharmacological actions of the available drugs to rationalise drug therapy for the indicated disease.
				CO5	Assess the drug interaction, adverse effects and contraindications of different drugs for safe and effective pharmacological therapy.
Bachelor of Pharmacy	Fifth	BP504T	Pharmacognosy and Phytochemistry	CO1	To understand the metabolic pathways in formation of secondary metabolites and application of biogenetic studies. (Understanding)
				CO2	To understand the modern extraction techniques, composition, chemistry and uses of herbal drugs and phytoconstituents. (Understanding)
				CO3	Make use of chemical tests and latest techniques like chromatography, spectroscopy and electrophoresis in the isolation & purification of crude drugs. (Applying)
				CO4	To analyze the crude drugs and phytoconstituents. (Analyzing)
				CO5	To explain the isolation, production, and estimation of phytoconstituents. (Evaluating)
Bachelor of Pharmacy	Fifth	BP505T	Pharmaceutical Jurisprudence – Theory	CO1	Explain basic concepts of various schedules, act and rules related to pharmacy profession in India.
				CO2	Summarize various regulations for manufacture licensing, import, export, sale and distribution of drugs in India.
				CO3	Outline pharmaceutical legislations, pharmaceutical ethics and pricing of formulations.
				CO4	Interpret offences and penalties of various acts governing pharmacy profession in India.
				CO5	Identify the requirement on labeling and packaging of drugs.
Bachelor of Pharmacy	Fifth	BP506P	Industrial Pharmacy I – Practical	CO1	Demonstrate the preformulation studies of tablets and capsule
				CO2	Make use of manufacturing techniques and knowledge of excipients; formulate the tablet, capsule, injection and eye drop/ eye ointment.
				CO3	Analyze the tablets, capsules, glass containers for their quality, and regulatory requirements to prepare labels.
				CO4	Interpret the finding of observations.
				CO5	Formulate the topical preparation.
Bachelor of Pharmacy	Fifth	BP507P	Pharmacology II – Practical	CO1	Outline the concepts of experimental pharmacology and understanding in vitro and in vivo experiments.
				CO2	Explain the theoretical concepts of drug effects on various isolated organs/tissues/whole animal.
				CO3	Examine the dose response curve of various drugs at different doses by performing bioassay.
				CO4	Evaluate various pharmacological activity of drugs using animal models.
				CO5	Estimate different parameters like PA2 and PD2 value of drugs.
Bachelor of Pharmacy	Fifth	BP508P	Pharmacognosy and Phytochemistry II – Practical	CO1	To demonstrate distillation of volatile oil from crude drugs. (Understanding)
				CO2	Make a use of extraction techniques to get the extract from crude drugs. (Applying)
				CO3	To identify crude drugs by performing chemical tests. (Applying)
				CO4	To examine morphology, histology and powder characteristics of crude drugs. (Analyzing)
				CO5	To isolate & detection of active principles by chromatographic analysis of crude drugs. (Analyzing)
Bachelor of Pharmacy	Sixth	BP601T	Medicinal Chemistry III – Theory	CO1	Explain basic concepts and properties of medicinal compounds.
				CO2	Model synthetic protocol of medicinal agents/drugs.
				CO3	Analyze medicinal compounds/drugs on the basis of their structural modification.
				CO4	Analyze mode of action and uses of medicinal compounds.
				CO5	Evaluate the structure activity relationship (SAR) of medicinal agents/drugs.
Bachelor of Pharmacy	Sixth	BP602T	Pharmacology III – Theory	CO1	Explain the basic concepts, general principals, terminologies, causes, signs and symptoms, risk factors, management of various disease and ailment.
				CO2	Outline the pharmacokinetics, pharmacodynamics along with the adverse effects, interactions, clinical functions and various types of diseases.
				CO3	Examine the principal of toxicology treatment of several poisoning and the chronopharmacology.
				CO4	Analyze the classification and mechanism of action of drug in the treatment of infectious diseases.
				CO5	Explain the correlation with chemotherapy and immunopharmacology with related medical science.
				CO1	Outline the fundamental principles and aspects of herbal drug technology (Understanding).
				CO2	Utilize various concepts and methods in herbal drugs technology (Applying)





				CO4	Model the synthetic protocols of medicinal compounds.
				CO5	Analyze medicinal compounds based on SAR.
Bachelor of Pharmacy	Fifth	BP502T	Industrial Pharmacy I – Theory	CO1	Explain the concept and utility of preformulation studies, pharmacopoeial specifications, techniques, and equipment used in the formulation of various dosage forms.
				CO2	Extend the fundamentals, nature and characteristics of excipients, cosmeceuticals, dosage forms, and packaging materials.
				CO3	Utilize the established procedures and technology to formulate and prepare cosmeceuticals, and various dosage forms.
				CO4	Analyze the selection of packaging materials, complexities and challenges related to the formulation of dosage forms and cosmetics.
				CO5	Evaluate the pharmaceutical dosage form and packaging materials for quality and stability, and compare them with standards prescribed in the pharmacopoeia.
Bachelor of Pharmacy	Fifth	BP503T	Pharmacology II – Theory	CO1	Interpret physiological alterations and normal physiology with drug intervention from different classes of drugs.
				CO2	Summarize the bioassay, biosynthesis, storage, release, Classification, mechanism of action, biotransformation, commercial preparations, indications of the drugs
				CO3	Construct a suitable model drug therapy for multiple complications and comorbid conditions.
				CO4	Analyze the pharmacological actions of the available drugs to rationalise drug therapy for the indicated disease.
				CO5	Assess the drug interaction, adverse effects and contraindications of different drugs for safe and effective pharmacological therapy.
Bachelor of Pharmacy	Fifth	BP504T	Pharmacognosy and Phytochemistry	CO1	To understand the metabolic pathways in formation of secondary metabolites and application of biogenetic studies. (Understanding)
				CO2	To understand the modern extraction techniques, composition, chemistry and uses of herbal drugs and phytoconstituents. (Understanding)
				CO3	Make use of chemical tests and latest techniques like chromatography, spectroscopy and electrophoresis in the isolation & purification of crude drugs. (Applying)
				CO4	To analyze the crude drugs and phytoconstituents. (Analyzing)
				CO5	To explain the isolation, production, and estimation of phytoconstituents. (Evaluating)
Bachelor of Pharmacy	Fifth	BP505T	Pharmaceutical Jurisprudence – Theory	CO1	Explain basic concepts of various schedules, act and rules related to pharmacy profession in India.
				CO2	Summarize various regulations for manufacture licensing, import, export, sale and distribution of drugs in India.
				CO3	Outline pharmaceutical legislations, pharmaceutical ethics and pricing of formulations.
				CO4	Interpret offences and penalties of various acts governing pharmacy profession in India.
				CO5	Identify the requirement on labeling and packaging of drugs.
Bachelor of Pharmacy	Fifth	BP506P	Industrial Pharmacy I – Practical	CO1	Demonstrate the preformulation studies of tablets and capsule
				CO2	Make use of manufacturing techniques and knowledge of excipients; formulate the tablet, capsule, injection and eye drop/ eye ointment.
				CO3	Analyze the tablets, capsules, glass containers for their quality, and regulatory requirements to prepare labels.
				CO4	Interpret the finding of observations.
				CO5	Formulate the topical preparation.
Bachelor of Pharmacy	Fifth	BP507P	Pharmacology II – Practical	CO1	Outline the concepts of experimental pharmacology and understanding in vitro and in vivo experiments.
				CO2	Explain the theoretical concepts of drug effects on various isolated organs/tissues/whole animal.
				CO3	Examine the dose response curve of various drugs at different doses by performing bioassay.
				CO4	Evaluate various pharmacological activity of drugs using animal models.
				CO5	Estimate different parameters like PA2 and PD2 value of drugs.
Bachelor of Pharmacy	Fifth	BP508P	Pharmacognosy and Phytochemistry II – Practical	CO1	To demonstrate distillation of volatile oil from crude drugs. (Understanding)
				CO2	Make a use of extraction techniques to get the extract from crude drugs. (Applying)
				CO3	To identify crude drugs by performing chemical tests. (Applying)
				CO4	To examine morphology, histology and powder characteristics of crude drugs. (Analyzing)
				CO5	To isolate & detection of active principles by chromatographic analysis of crude drugs. (Analyzing)
Bachelor of Pharmacy	Sixth	BP601T	Medicinal Chemistry III – Theory	CO1	Explain basic concepts and properties of medicinal compounds.
				CO2	Model synthetic protocol of medicinal agents/drugs.
				CO3	Analyze medicinal compounds/drugs on the basis of their structural modification.
				CO4	Analyze mode of action and uses of medicinal compounds.
				CO5	Evaluate the structure activity relationship (SAR) of medicinal agents/drugs.
Bachelor of Pharmacy	Sixth	BP602T	Pharmacology III – Theory	CO1	Explain the basic concepts, general principals, terminologies, causes, signs and symptoms, risk factors, management of various disease and ailment.
				CO2	Outline the pharmacokinetics, pharmacodynamics along with the adverse effects, interactions, clinical functions and various types of diseases.
				CO3	Examine the principal of toxicology treatment of several poisoning and the chronopharmacology.
				CO4	Analyze the classification and mechanism of action of drug in the treatment of infectious diseases.
				CO5	Explain the correlation with chemotherapy and immunopharmacology with related medical science.
				CO1	Outline the fundamental principles and aspects of herbal drug technology (Understanding).
				CO2	Utilize various concepts and methods in herbal drugs technology (Applying)





Bachelor of Pharmacy	Sixth	BP603T	Herbal Drug Technology – Theory	CO3 Analyze the challenges and complexities associated with the formulation and evaluation of herbal products (Analyzing).
				CO4 Explain the role of excipients, characterization, and regulatory requirements for herbal medicines (Evaluating)
				CO5 Formulate various herbal products (Creating).
Bachelor of Pharmacy	Sixth	BP604T	Biopharmaceutics and Pharmacokinetics – Theory	CO1 Outline the concept of biopharmaceutics and pharmacokinetics in Pharmacy.
				CO2 Apply various pharmacokinetics principles in drug and product development.
				CO3 Utilize various pharmacokinetic parameters in bioavailability and bioequivalence studies.
				CO4 Solve various pharmacokinetic mathematical problems.
				CO5 Analyze the role of pharmacokinetic modelling in the prediction of the movement of drugs in the body.
Bachelor of Pharmacy	Sixth	BP605T	Pharmaceutical Biotechnology-- Theory	CO1 Explain the various equipment, techniques, and tools used in the pharmaceutical biotechnology.
				CO2 Outline the basics of immunity, genetic organization of microbes, collection, processing and storage of blood product, storage condition and stability of vaccines.
				CO3 Make use of various technologies, i.e., immobilization, rDNA, hybridoma, fermentation, etc., to produce biotechnological products.
				CO4 Analyze the advances and application of various biotechnological techniques and products in the different areas.
				CO5 Examine the operational requirements and optimum conditions for the production of top notch biotechnology products.
Bachelor of Pharmacy	Sixth	BP606T	Quality Assurance– Theory	CO1 Understand the quality parameters and quality attributes in pharmaceutical industry
				CO2 Outline the scope of quality certifications applicable to pharmaceutical industries
				CO3 Utilize the various tools for quality improvement.
				CO4 Analyze the importance of documentation in pharmaceutical industry
				CO5 Determine the responsibilities of QA & QC departments
Bachelor of Pharmacy	Sixth	BP607P	Medicinal Chemistry III – Practical	CO1 Impart knowledge in preparation of drugs and intermediates
				CO2 Learning preparation of Drawing structures and reactions using different softwares
				CO3 Applying Microwave irradiation technique in Preparation of medicinally important compounds or intermediate.
				CO4 Perform volumetric analysis of Assay of drugs
Bachelor of Pharmacy	Sixth	BP608P	Pharmacology III – Practical	CO1 Solve the dose calculation in pharmacological experiments.
				CO2 Apply various Biostatistics methods (student's t-test, ANOVA, Chi-square test, Wilcoxon Signed Rank test) in experimental pharmacology
				CO3 Examine pharmacological effects of drugs like antiallergic, hypoglycemic, and anti-ulcer in animal models.
				CO4 Examine the effect of drugs on various isolated organs or tissues.
				CO5 Estimate and interpretation of pharmacokinetic and biochemical parameters
Bachelor of Pharmacy	Sixth	BP609P	Herbal Drug Technology – Practical	CO1 Make use of Phytochemical screening of crude drugs (Applying)
				CO2 To determine the physical and chemical properties of crude drugs and formulations. (Evaluating)
				CO3 To summarize the characteristics of excipients of natural origin. (Understanding)
				CO4 Make use of standardized extract in cosmetic formulations like creams, lotions and shampoos. (Applying)
				CO5 Make use of standardized extract in formulations like syrups, mixtures and tablets as per Pharmacopoeial requirements. (Applying)
Bachelor of Pharmacy	Seventh	BP701T	Instrumental Methods of Analysis – Theory	CO1 To understand the basic concepts of analytical/spectroscopic techniques.
				CO2 To understand the Principle and working of various analytical techniques.
				CO3 Model the instrumentation of spectroscopic tools.
				CO4 Examine the Pharmaceutical applications of Analytical/ Spectroscopic techniques.
				CO5 Examine the physical and chemical parameters of various spectroscopic methods.
Bachelor of Pharmacy	Seventh	BP702T	Industrial Pharmacy II – Theory	CO1 Illustrate the fundamental principles of different techniques used in the pharmaceutical industry
				CO2 Explain the regulatory guidelines of pharmaceutical industry
				CO3 Identify the process of technology development and quality management in the industrial pharmacy
				CO4 Examine the scientific data and conclusion intended for regulatory review
				CO5 Assess the implementation of good regulatory practices
Bachelor of Pharmacy	Seventh	BP703T	Pharmacy Practice – Theory	CO1 Explain organization of Hospital & community pharmacy & their management.
				CO2 Outline general & legal requirements for hospital & community pharmacy.
				CO3 Summarize roles & responsibilities of pharmacist in hospital & community pharmacy.
				CO4 Relate drug distribution, information and safe use of drug.
				CO5 Interpret the documentation information related to hospital & community pharmacy.
Bachelor of Pharmacy	Seventh	BP704T	Novel Drug Delivery System (NDDS) – Theory	CO1 Outline the fundamentals of Novel Drug Delivery Systems (NDDS).
				CO2 Identify the applications, complexities and challenges related to the formulation and production of NDDS.
				CO3 Examine various NDDSs based on the dosage form and their route of administration.
				CO4 Analyze the designing of various NDDSs in therapeutic systems.
				CO5 Evaluate the formulation development and characterization of various NDDSs
				CO1 Demonstrate the construction, working principles, and applications of various analytical instruments.
				CO2 Utilize the effects of various variables on the estimation of pharmaceutical products





Bachelor of Pharmacy	Seventh	BP705P	Instrumental methods of analysis/ HPLC Practical	CO3	Analyze the designing of various NDDSs in therapeutic systems.
				CO4	Estimate various chemical species using different analytical methods.
				CO5	Formulate and evaluate various pharmaceutical formulations
Bachelor of Pharmacy	Eighth	BP801T	Biostatistics and Research Methodology	CO1	Outline the fundamentals of biostatistics and research methodology.
				CO2	Identify various statistical methods employed in the pharmacy and pharmaceutical industry.
				CO3	Solve various pharmaceutical statistical problems using biostatistics.
				CO4	Analyze the methods involved in the design of the research methodology.
				CO5	Evaluate various statistical methods implicated in the design of experiments.
Bachelor of Pharmacy	Eighth	BP802T	Social and Preventive Pharmacy	CO1	Explain the concepts of public health and Relate food to nutrition health, deficiencies and its prevention.
				CO2	Illustrate socio-cultural factors and its relation with health.
				CO3	Identify avoidable habits for personal hygiene and health and explain the principles on the prevention and control of communicable and non- communicable diseases.
				CO4	Identify National health programs its objectives and recognize the community services in rural, urban and school health.
				CO5	Explain the general measures and strategies to be followed in social and preventive pharmacy.
Bachelor of Pharmacy	Eighth	BP803ET	Pharma Marketing Management	CO1	Explain the different concepts and scopes of marketing at various levels in pharmaceutical industry.
				CO2	Summarize the various parameters involves to check for managing the pharmaceutical marketing.
				CO3	Identify different types of sales promotion and marketing mix for pharmaceutical products.
				CO4	Make use of various marketing channels and emerging concepts of pharmaceutical marketing.
				CO5	Compare the strategies and pricing of the pharmaceutical industry.
Bachelor of Pharmacy	Eighth	BP813ET	Pharmaceutical Product Development	CO1	Explain the concept of pharmaceutical product development, packaging materials, regulations, and excipients for different types of dosage form.
				CO2	Extend the optimization techniques and quality control testing in the development of pharmaceutical product.
				CO3	Select the excipients and packaging material for pharmaceutical formulations.
				CO4	Inference to the utility of excipients and optimization techniques in pharmaceutical product development.
Diploma in Pharmacy	First	ER20-11T	Pharmaceutics Theory	CO1	Outline the scope of the pharmacy profession in India in relation to the Education Industry, Pharmacy practice, and other Professional associations
				CO2	Summarize various pharmaceutical and non-pharmaceutical ingredients used in the preparation and packaging of the formulation.
				CO3	Classify the different dosage forms based on their usage and the route of administration.
				CO4	Make use of various formulation techniques for the preparation of dosage forms.
				CO5	Categorize the Quality assurance and Quality control parameters in relation to different pharmacopeias and Manufacturing practices.
Diploma in Pharmacy	First	ER20-11P	Pharmaceutics Practical	CO1	Make use of the standard formula for the calculation of the working formula.
				CO2	Develop the different dosage forms and dispense them in appropriate containers.
				CO3	Evaluate various Quality control parameters of different dosage forms.
				CO4	Design the label with the necessary product and patient information
Diploma in Pharmacy	First	ER20-12T	Pharmaceutical Chemistry Theory	CO1	Interpret the chemical class, structure, chemical name of the commonly used drugs and pharmaceuticals of both inorganic and organic nature
				CO2	Outline the pharmacological uses, dosage regimen, stability issues and storage conditions of all such chemical substances commonly used as drugs
				CO3	Apply quantitative and qualitative analysis , impurity testing of the chemical substances/ pharmaceuticals
				CO4	Identify the dosage form & brand name of the drugs and pharmaceuticals
				CO5	Assess various parameters related to analysis of Pharmaceutical compounds
Diploma in Pharmacy	First	ER20-12P	Pharmaceutical Chemistry Practical	CO1	Demonstrate the method of preparation of organic compounds
				CO2	Identify qualitatively the various inorganic & organic Anions & Cations and unknown chemical substances
				CO3	Apply the various fundamentals of preparative organic chemistry and volumetric analysis
				CO4	Make use of various Identification test for determining the purity of inorganic and organic compounds
				CO5	Examine the impurity level by using limit test for various inorganic elements and report
Diploma in Pharmacy	First	ER20-13T	Pharmacognosy Theory	CO1	Classify the various categories of herbal drugs used in pharmaceuticals, nutraceuticals and cosmeceuticals.
				CO2	Illustrate biological sources and pharmaceuticals application of various categories of herbal drugs used in traditional systems of medicines.
				CO3	Outline the macroscopic and microscopic characteristics of herbal drugs used in various system of medicines
				CO4	Identify chemical constituents of selected crude drugs and their therapeutic efficacy in common disease and ailments
				CO5	Analyze various herbal drugs on the basis of phytoconstituents and their significance.
Diploma in Pharmacy	First	ER20-13P	Pharmacognosy Practical	CO1	Identify the crude drugs based on the morphological characteristics
				CO2	Analyze the anatomical characteristics of the crude drugs under microscopical conditions
				CO3	Evaluate various crude drugs based on physical tests.
				CO4	Evaluate various crude drugs based on chemical tests.





Diploma in Pharmacy	First	ER20-14T	Human Anatomy & Physiology – Theory	CO1 Understand the elementary concepts /principles, terminology and the mechanism involved in human anatomy and physiology
				CO2 Demonstrate the various organ systems of the human body
				CO3 Explain the anatomical features of the important human tissue and organ
				CO4 Interpret the homeostatic mechanisms regulating the normal physiology in the human system.
				CO5 Utilize the significance of various vital physiological parameters of the human body
Diploma in Pharmacy	First	ER20-14P	Human Anatomy & Physiology – Practical	CO1 Demonstrate various systems and organs with the help of charts, models and specimen
				CO2 Identify anatomical features of different tissues of human system
				CO3 Examine various physiological functions of human system and record of results
				CO4 Determine various physiological parameters of human system
				CO5 Evaluate various pathological conditions based on hematological observations
Diploma in Pharmacy	First	ER20-15T	Social Pharmacy – Theory	CO1 Outline the fundamental principal of social pharmacy.
				CO2 Illustrate the basic concept of pharmacoeconomics .
				CO3 Identify general roles and responsibility of pharmacist in public health and National health programme.
				CO4 Analyze various healthcare issues associated with food and nutritional substance.
				CO5 Categorize various health hazards and disease preventive majors.
Diploma in Pharmacy	First	ER20-15P	Social Pharmacy – Practical	CO1 Identify the roles and responsibility of pharmacist in various national health programmes.
				CO2 Make use of first Aid for various emergencies.
				CO3 Utilize preventive measures for various diseases.
				CO4 Categorize the various health hazards including microbial sources.
Diploma in Pharmacy	Second	ER20-21T	Pharmacology Theory	CO1 Summarize the basic concept of pharmacokinetic and pharmacodynamic.
				CO2 Interpret the various class and pharmacological uses of drugs.
				CO3 Outline the mechanism of action and pharmacological action of various classes of drugs.
				CO4 Make use of fundamental principle of pharmacology for does regimen, dose indication and contraindication of drugs.
				CO5 Categories various route of drug administration and dosage forms.
Diploma in Pharmacy	Second	ER20-21P	Pharmacology Practical	CO1 Utilize various techniques of experimental pharmacology.
				CO2 Make use of various instruments in experimental pharmacology.
				CO3 Utilize various animals in experimental pharmacology.
				CO4 Analyze effect of drugs on laboratory animals.
Diploma in Pharmacy	Second	ER20-22T	Community Pharmacy & Management –Theory	CO1 Explain establishment, legal requirement, responsibilities and effective administration of a community pharmacy
				CO2 Outline the principle and procedures in patient counseling, dispensing medication, and community pharmacy management.
				CO3 Make use of communication skills in patient counseling for effective community pharmacy management
				CO4 Inspect various parts of prescription and its errors for dispensing of prescribed and OTC medications
				CO5 Analyze the reports of patients for effective health screening in community pharmacies
Diploma in Pharmacy	Second	ER20-22P	Community Pharmacy & Management –Practical	CO1 Inspect various parts of prescription and its errors for dispensing of prescribed and OTC medications
				CO2 Analyze the reports of patients for effective health screening in community pharmacies.
				CO3 Make use of the correct administration techniques for different dosage form.
				CO4 Make use of dispensing labels and auxiliary labels for the prescribed medicines.
				CO5 Examine the patient history and provide counseling for major and minor ailments.
Diploma in Pharmacy	Second	ER20-23T	Biochemistry & Clinical Pathology – Theory	CO1 Explain the basic concepts of biomolecules their functions and metabolic pathway
				CO2 Classify various biomolecules based on their chemical biological nature
				CO3 Identify the nutritional importance and deficiency symptoms of biomolecules and nutritional supplement
				CO4 Compare biomolecules on basis of their qualitative and biological significance
				CO5 Analyse the clinical significance of various pathological observations of blood and urine
Diploma in Pharmacy	Second	ER20-23P	Biochemistry & Clinical Pathology – Practical	CO1 Compare biomolecules on the basis of their qualitative and biological significance.
				CO2 Analyze the clinical significance of various pathological observation of blood and urine.
				CO3 Analyze various macro and micro biomolecules qualitatively.
				CO4 Examine the hydrolysis of starch from acid and salivary amylase enzyme.
				CO5 Determine various constituents present in blood / serum.
Diploma in Pharmacy	Second	ER20-24T	Pharmacotherapeutics – Theory	CO1 Summarize basic concepts of pharmacotherapeutics with respect to various disease and disorders.
				CO2 Classify the ailments based on etiopathogenesis.
				CO3 Plan the non-pharmacological and pharmacological management strategies of various diseases.
				CO4 Analyze the clinical manifestation of common diseases.
Diploma in Pharmacy	Second	ER20-24P	Pharmacotherapeutics – Practical	CO1 Analyze SOAP notes for the given clinical cases of cardiovascular diseases.
				CO2 Analyze SOAP notes for the given clinical cases of CNS diseases.
				CO3 Analyze SOAP notes for the given clinical cases of respiratory and infectious diseases.



Diploma in Pharmacy	Second	ER20-25T	Hospital & Clinical Pharmacy – Theory	CO4 Analyze SOAP notes for the given clinical cases of blood and dermatological diseases.
				CO5 Evaluate the real/hypothetical clinical cases and calculate the doses for pathological condition.
				CO1 Explain organizational and functional guidelines of hospital pharmacy administration
				CO2 Summarize clinical pharmacy terminology and role of clinical pharmacist in management of the same.
				CO3 Outline the concepts of medication errors, poisoning and pharmacovigilance.
				CO4 Make the use of the principles and standard involved in inventory control and drug distribution.
				CO5 Identification of disease states on the basis of clinical laboratory tests
Diploma in Pharmacy	Second	ER20-25P	Hospital & Clinical Pharmacy – Practical	CO1 Demonstrate various aids and devices of clinical and surgical application.
				CO2 Make use of various objects stimulation tools for clinical and surgical procedures.
				CO3 Utilizing primary, secondary and tertiary resources for addressing drugs information queries.
				CO4 Inspect various cases for drug, drug interactions and ADR reporting.
Diploma in Pharmacy	Second	ER20-26T	Pharmacy Law & Ethics	CO1 Summarize the basic fundamentals like history, introduction, amendments & overview of various acts implemented in pharmacy profession in India.
				CO2 Outline the objectives, definitions, administrative bodies, schedules, guidelines, offences & penalties of various acts implemented in pharmacy profession in India.
				CO3 Classify various drug control authority and legal procedures involved in pharmacy profession in India.
				CO4 Make use of different schedules for conduct of ethical pharmacy standards in India.
				CO5 Compare guidelines and amendments of various acts for standard pharmacy practice in India.
Bachelor of Technology (First Year)	First	BAS103	Engineering Mathematics-I	CO1 Extend the concept of matrices in simultaneous linear equation.
				CO2 Remember the concept of differentiation to find successive differentiation and partial derivatives
				CO3 Make use of partial differentiation in various application of derivatives-extrema and error analysis
				CO4 Compute the area, volume, centre of mass and centre of gravity by multiple integrals
				CO5 Apply vector differentiation and integration for line, surface and volume integrals
Bachelor of Technology (First Year)	Second	BAS203	Engineering Mathematics-II	CO1 Solve the higher order linear differential equation
				CO2 Understand the concept of Laplace transform to evaluate differential equations
				CO3 Classify the nature of sequence –series and expansion of Fourier series
				CO4 Make use of analytic function for conformal mapping and bilinear transformation
				CO5 Apply complex integration for the expansion of complex function and real integrals
Bachelor of Technology (First Year)	First/Second	BAS101/BAS201	Engineering Physics	CO1 The students will be able to understand the concepts of engineering physics
				CO2 Apply the Theory of relativity in related phenomenon for the problems of classical Physics.
				CO3 Apply the concepts of Electromagnetic Field Theory for different conditions and applications.
				CO4 Apply the concept of Quantum Mechanics with reference to Classical Physics
				CO5 Apply the phenomenon of Wave & modern optics in Engineering
Bachelor of Technology (First Year)	First/Second	BAS151/BAS251	Engineering Physics Lab	CO1 To learn about some application of Carey Foster bridge
				CO2 To study the variation of magnetic field along the axis of current carrying circular coil and magnetic field in ferromagnetic materials & hysteresis loop
				CO3 To study the Hall effect, Stefan's law and energy band gap in semiconductor.
				CO4 To study the different phenomena of geometrical effect & physical optics (Newton's ring, diffraction grating and wavelength of He-Ne laser with diffraction grating)
Bachelor of Technology (First Year)	First/Second	BAS102/BAS202	Engineering Chemistry	CO1 The student will be able to understand the concepts of engineering chemistry.
				CO2 The student will be able to understand the concepts of materials used in engineering applications.
				CO3 The student will be able to apply the concept of spectroscopy and stereochemistry in determination of molecular structure.
				CO4 The student will be able to apply the functional aspect of electrochemistry, batteries and corrosion.
				CO5 The student will be able to apply the knowledge of water and fuel chemistry for industrial and domestic use.
Bachelor of Technology (First Year)	First/Second	BAS152/BAS252	Engineering Chemistry Lab	CO1 To determine impurities such as hardness and alkalinity present in water.
				CO2 To determine iron concentration and percentage of available chlorine in water using titration methods.
				CO3 To determine molecular properties such as surface tension, viscosity, pH of solution.
				CO4 To prepare industrially useful polymer resins like urea formaldehyde, phenol formaldehyde.
Bachelor of Technology (First Year)	First/Second	BEE101/BEE201	Fundamentals of Electrical Engineering	CO1 Apply the concepts of KVL/KCL and network theorems in solving DC circuits.
				CO2 Analyze the steady state behavior of single phase and three phase AC electrical circuits.
				CO3 Identify the application areas of a single phase two winding transformer as well as an auto transformer and calculate their efficiency.
				CO4 Illustrate the working principles of induction motor, synchronous machine as well as DC machine and employ them in different area of applications.
				CO5 Describe the components of low voltage electrical installations.
				CO1 Conduct experiments illustrating the application of KVL/KCL and network theorems to DC electrical circuits.





Bachelor of Technology (First Year)	First/Second	BEE151/BEE251	Basic Electrical Engineering Lab	CO2	Demonstrate the behavior of AC circuits connected to single phase AC supply and measure power in single phase as well as three phase electrical circuits.
				CO3	Perform experiment illustrating BH curve of magnetic materials.
				CO4	Calculate efficiency of a single phase transformer and DC machine.
				CO5	Perform experiments on speed measurement and reversal of direction of three phase induction motor and identify the type of DC and AC machines based on their construction.
Bachelor of Technology (First Year)	First/Second	BEC101/BEC201	Fundamentals of Electronics Engineering	CO1	Apply the concept of PN Junction diode in various diode based circuits.
				CO2	Understand the concepts of BJT, FET and MOSFET.
				CO3	Apply the concepts of operational amplifier in various op-amp based circuits.
				CO4	Apply the concepts of number system and Boolean algebra.
				CO5	Understand the fundamentals of communication engineering.
Bachelor of Technology (First Year)	First/Second	BEC151/BEC251	Basic Electronics Engineering Lab	CO1	Able to identify and understand the handling of lab equipment and processes like Active & Passive Components, PCB, electronics measuring devices and soldering techniques.
				CO2	Demonstrate the behaviour of various applications of PN junction diode and BJT.
				CO3	Use Op-Amp in various applications like addition and subtraction.
				CO4	Verify the truth table of various logic gates and utilize them for implementation of various Boolean functions.
Bachelor of Technology (First Year)	First/Second	BCS101/BCS201	Programming for Problem Solving	CO1	To understand the fundamental of computer & C programming
				CO2	To apply various control statements
				CO3	To utilize the concept of functions
				CO4	To apply the concept of primitive & non primitive data types
				CO5	To make use of file handling and preprocessor
Bachelor of Technology (First Year)	First/Second	BCS151/BCS/251	Programming for Problem Solving Lab	CO1	To apply different control statements
				CO2	To apply the concepts of functions
				CO3	To apply the concepts of primitive and non primitive data types
				CO4	To apply the concepts of file handling
Bachelor of Technology (First Year)	First/Second	BME101/BME201	Fundamentals of Mechanical Engineering	CO1	Explain the behaviour of deformable bodies.
				CO2	Illustrate the concepts of internal combustion engines and electric vehicles.
				CO3	Illustrate the concepts of refrigeration and air-conditioning.
				CO4	Illustrate fluid properties, conservation laws and hydraulic machinery.
				CO5	Explain error in measurement, mechatronics and its functional elements.
Bachelor of Technology (First Year)	First/Second	BAS104/BAS204	Environment and Ecology	CO1	The student will be able to understand the ecological perspective and value of the environment.
				CO2	The students will be able to understand the significance of various natural resources and its management.
				CO3	The students will be able to understand different types of pollution and the controlling measures.
				CO4	The students will be aware of current environmental issues.
				CO5	The students will be able to understand environmental laws.
Bachelor of Technology (First Year)	First/Second	BAS105/BAS205	Soft Skills	CO1	To understand the usage of grammar
				CO2	To enhance listening and speaking skills
				CO3	To understand the proper usage of reading and writing skills
				CO4	To develop presentation and interaction skills
				CO5	To understand workplace stress and leadership skills
Bachelor of Technology (First Year)	First/Second	BAS155/BAS255	English Language Lab	CO1	To Understand the role of kinesics and paralanguages in individual speaking
				CO2	To enhance the confidence for public speaking with the help of various speaking activities
				CO3	To understand the basic rules of error free grammar in order to improve writing skills
				CO4	To understand comprehension skills based on Reading and Listening modules
Bachelor of Technology (First Year)	First/Second	BCE151/BCE251	Engineering Graphics and Design Lab	CO1	Understand the drawing instruments and their uses with visual aspects and graphics standards of engineering design
				CO2	Draw orthographic projections of points, lines, planes and solids.
				CO3	Develop the surfaces of different sections.
				CO4	Draw Isometric Projection using Isometric scale.
Bachelor of Technology (First Year)	First/Second	BWS151/BWS251	Mechanical Workshop Lab	CO1	Identify the engineering materials, tools, machines and measuring instruments.
				CO2	Make use of lathe and CNC machine for simple turning operations.
				CO3	Utilize fitting and carpentry tools for joints preparations.
				CO4	Choose the metal joining process for components manufacturing.

