

GMR Institute of Technology

An Autonomous Institute Affiliated to JNTUK-Kakinada
 All UG Courses are accredited by NBA
 Institute Accredited by NAAC with "A" grade (3rd cycle)
 Ranked 188th in NIRF-2022



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1.2.1. List of new courses introduced program-wise during the assessment period

Name of the Course	Course Code	Activities/Content with a direct bearing on Employability/ Entrepreneurship/ Skill development
B.Tech (Civil Engineering)		
Building Materials and Concrete Technology	20CE302	The structural engineering courses are inculcating the knowledge of fundamentals and the advancements progress the field of structural engineering. The study of stresses, strains and bending behaviour of the member may enable the students to select the reliable and right material for the construction members in the construction industry. The study of structural analysis and the design of reinforced concrete and steel structures may help the students to perform as good design engineer in the structural design firm. Based on the knowledge acquired from the concrete and construction technology, the student may execute the project in a smooth way and enable him/her to perform as a best site engineer in the construction industry. The both theoretical and the practical knowledge acquired from the structural engineering courses, the students can able to start the start-ups in the field of construction and in structural design.
Structural Analysis	20CE404	
Design and Detailing of RC Structures	19CE501	
Principles of Building Architecture	19CEC11	
Design of Steel Structure	19CE602	
Building Services	19CEC12	
Repair and Rehabilitation of Structures	16CE010	
Prestressed Concrete	16CE013	
Fluid Mechanics	20CE304	The courses involves the application of science and engineering in the area of air, water and soil. It focuses on providing wholesome water for the

Solid Mechanics-I	20CE305	<p>public, controlling air pollution and rehabilitating polluted soil. Furthermore, it focuses on providing the appropriate solution for pollution, providing solutions for improving water quality and quantity and enforces laws and regulations for controlling pollution. In recent years the world is facing many environmental-related problems and it had become a major challenge for society. It starts from local problems like groundwater depletion, water pollution and solid waste management to global problems like climate change. The major scope of environmental engineering is the management of natural resources, protecting biodiversity and controlling various pollutions. Nowadays the major opportunity that an environmental engineer can play an important role are industries where they need to comply with rules and regulations, consultancy, Research and Development, Academics, Green Marketing, Green Media, Green Advocacy and role in various international NGOs. In the mere future, career and opportunities in the area of environmental engineering will be very high.</p> <p>India is a developing country in which big concentration has kept on the development of various roads which includes Expressways, National Highways to rural roads and urban streets. Further the development of railways, Airways and Water ways. The transportation engineering course helps the students have knowledge on selecting a new alignment of Highway or Railway and complete its geometric design. The surveying subject helps the students to fix the traverse stations and complete picking up of preliminary to detailed survey of ground details using total station and Differential global positioning system instrument. The Geographical Information systems software helps the students in fixing the Highway alignment. The pavement engineering course helps the students to select type of the pavement with selection of suitable materials and complete its design in a sustainable manner. In the urban areas transportation planning is very much important from which students can know how better a transportation system can meet the demand of public. In decision making of a by pass and alternate routes, widening the existing roads by volume count</p>
Solid Mechanics Laboratory	20CE307	
Solid Mechanics-II	20CE403	
Hydraulics and Hydraulics Machinery	20CE401	
Fluid Mechanics and Hydraulic Machinery Laboratory	20CE406	
Surveying	20CE306	
Surveying Laboratory	20CE308	
Transportation Engineering	20CE405	
Geometric Design and Highway Materials	19CEC21	
Highway Design and Simulation	19CEC22	

		surveys. Further help to improve the junctions for free flow of Traffic and provide better parking facilities. The traffic engineering and safety subjects make the student understand what are the measures to be taken on the road so that traffic can travel with high speeds without causing an accident providing necessary information, caution and warning signs. The pavement management system helps the students to manage the pavement condition without failure and saving the economy of the nation. Now a days in country the public travelling in airways has increased the course aviation and infrastructure planning helps the student to understand construct new airport with required facilities and pavement design.
Soil Mechanics	20CE402	Geotechnical Engineering courses help the students to will learn the properties of soil and their applications in construction, and they will perform field investigations including collection of soil samples for testing and observation of soil behavior which helps them to prepare the soil investigation reports, design of foundations for various structures.
Soil Mechanics Laboratory	20CE407	
Foundation Engineering	19CE503	
Environmental Engineering	19CE502	Environmental Engineering courses help the students to learn about the importance of environment and its relevance with the Civil Engineering. The students will get awareness about the sustainable development, pollution control, water resources management, climate change mitigation, environmental impact assessment and so on.
Environmental Engineering Laboratory	19CE505	
Employability Skills-I	20ESX01	Students will be trained with soft skills and technical skills and shall engage themselves in activities societal enrichment and skill enrichment
Employability Skills-II	19ESX02	
CC & EC Activities-I	20HSX11	
CC & EC Activities-II	19HSX12	

Term paper	19TPX01	Students will have an exhaustive literature review choosing any engineering concept with reference to standard and based on literature review students will take up a specific problem for which they conduct experiments,use analytical tools
Mini Project	19MPX01	
Project	16CE804	
Summer Internship	16SIX01	Students will undergo training in an organisation in order to get experience for their chosen field of carrer,Demonstrate the quality and suitability of construction materials and apply the practical aspect of analysis, design and safe construction
Full Semester Internship	16CE706	
B.Tech. (Electrical and Electronics Engineering)		
DC Machines and Transformers	20EE302	<p>Employability Skills: These Courses are to prepare students for employability in job market and survive in cut throat competition among Professionals.</p> <p>Technical Skills: These Courses are to prepare students for various fundamentals related to DC and AC machines inculdeing design and testing aspetcs.</p>
AC Machines	20EE401	
DC Machines Lab	20EE307	
AC Machines Lab	20EE406	
Electrical Vehicle Technologies	19EEC11	
Electrical Machine Design	19EE004	
Special Electrical Machines	19EE006	
Machine Modelling and Steady State Analysis	19EE009	

Electric Locomotives, Traction and Vehicles	16EE009	
Power Generation, Transmission and Distribution	20EE404	<p>Employability Skills: These Courses are to prepare students for employability in job market and survive in cut throat competition among Professionals.</p> <p>Technical Skills: These Courses are to prepare students for various fundamentals in Power Systems generation, trnsmission, distribution, utility, protection, analysis and control incuding DC transmission.</p>
Power System Analysis & Control	19EE603	
Renewable Energy Sources	19EE002	
Power Quality	16EE015	
Power System Lab	19EE507	
Power System Operation and Control	16EE008	
Green Energy Technologies	19EEC21	
PLCs & SCADA	16EE010	
Power System Protection	19EE504	
High Voltage DC Transmission	19EE005	
Artificial Inteligence applications to Power Systems	16EE011	
Design and Layout of Power Systems	16EE012	
Control and Instrumentation of Smart Grid Systems	19EEC32	

Power System Protection	16EE802	
Control Systems	19EE502	
Advanced Control Systems	19EE007	
Electrical Installation, Safety & Auditing	19EE001	
Energy Audit, Conservation & Management	16EE014	
Electrical Installation, Design & Estimation	16EE013	
Power System Deregulation	16EE007	
Flexible AC Transmission System	16EE005	
Micro and Smart Grid Technologies	19EEC31	
Electrical Systems and Simulation Lab	16EE704	
Power Electronics	19EE503	<p>Employability Skills: These Courses are to prepare students for employability in job market and survive in cut throat competition among Professionals.</p> <p>Technical Skills: These Courses are to prepare students for various fundamentals related to Solid state devices, rectifiers, Invereters, AC</p>
Power Electronics	20EE403	
Electric Vehicle Drive Train systems	19EEC12	
Power Electronic Applications to Green Energy Systems	19EEC22	

Power Electronics and Drives Lab	19EE606	voltage controllers, cyclo converters, choopers including Control of AC and DC Drives.	
Electrical Drives	19EE602		
Object Oriented Programming through Java	19IT306	Skill development: JavaScript and Java continue to top the list of most in-demand programming languages. Java and JavaScript are predicted to be the most in-demand IT skills.	
Semiconductor Devices and Circuits	20EE306	<p>Employability Skills: These Courses are to prepare students for employability in job market and survive in cut throat competition among Professionals.</p> <p>Technical Skills: These Courses are to prepare students for various fundamentals related to semi condctor devices, Linear and Digital Integrated circuits, Discrete Signal Processing, digital filter design, Random signal process, power spectral density, auto and cross correlations.</p>	
VLSI Design	16EC505		
Communication Systems	16EC023		
Linear and Digital Integrated Circuits	20EE402		
Embedded Systems	16EC011		
Signal and Systems Theory	20EE405		
Discrete Signal Processing	19EE008		
Electrical Circuit Analysis	20EE303		<p>Employability Skills: These Courses are to prepare students for employability in job market and survive in cut throat competition among Professionals.</p> <p>Technical Skills: These Courses are to prepare students for various topics related to fileld theory, magnetic circuit parameters, Network theorem, MI & MC Insturemnts, Power and Energy measurements, AC & DC bridges.</p>
Electro Magnetic Field Theory	20EE304		
Measurements and Instrumentation	20EE305		

Electrical Circuits and Simulation Lab	20EE308	
Measurements and Instrumentation Lab	20EE407	
Full Semester Internship	16EE706	Skill development: This course enables the student to get in the industrial environmental exposure of day to day industrial work and how it is carried out.
Project	16EE804	Skill development: The main objective of this course is student work in teams to demonstrate their acquired skills, solve challenging problems that are realistic, curriculum based and often interdisciplinary in the process they acquire the skills required for their career.
Mini-Project	19EE607	
Employability Skills II	19EE609	Employability Skills: It helps the student to develop aptitude skills, quantitative skills, soft skills for personality development and career growth. I also help in developing design and simulation skills for the student to be industry ready.
Employability Skills I	20ESX01	
B.Tech. (Mechanical Engineering)		
Finite Element Method	16ME701	Employability Skills: This course applies to engineering or related applications across all forms of manufacturing and engineering. It is suitable for people with structural, plant or equipment design or maintenance responsibilities, and those pursuing engineering or related qualifications and careers.
Computer Aided Design and Manufacturing	19ME501	Skill development: This course gives an understanding about coding used in design aspects along with strengthening the programming skillset on both design and CNC software.
Design of Machine Members I	19ME502	Technical Skills: The course focuses on the fundamentals and principles of basic mechanical elements, failure theories and design criteria, and structures of basic mechanical systems. The goal of the course is to learn how to design simple mechanical elements and systems.

Design of Machine Members II	19ME601	Technical Skills: The course focuses on the design of bearings, IC engines, power transmission systems, springs. The goal of the course is to learn how to design mechanical elements and systems.
Sensors and Actuators for Automotive Electronics	19MEC12	Technical Skills: This subject comprises the vehicle sensors, actuators, automotive safety, control and intelligent vehicle system. The course gives the knowledge about the vehicle sensors, different types of intelligent sensors, working principle of circuits in vehicle and automotive safety. The objective of this course is to learn how to develop the modern vehicle parts.
Computer Aided Machine Drawing	20ME302	Skill development: The machine drawing course aided by computer addresses the contemporary requirements of the industry. This makes the student industry-ready along with the scope of production-drawing details for the part drawings thus generated.
Kinematics of Machinery	20ME305	Technical Skills: Kinematics of machines deals with the study of the relative motion of machine parts. It involves the study of position, displacement, velocity and acceleration of machine parts. The student understands the basic terminology about the cams and gears.
Dynamics of Machinery	20ME402	Technical Skills: It deals with the study of relative motion between various elements of a machine and the forces which act on them that enhances the skill set of students.
Mechanics of Solids	20ME404	Technical skills: Mechanics of solid is the course refers to understand the knowledge about mechanical and thermal stress developed in the bars. Students acquired the basic concept about shear force and bending moment in the beams and torsion of the shaft. The objective of the present course is to understand the strength of the given member when it is subjected to different types of loads and moments.
Mechanics of Solids Lab	20ME406	Skill development: The objective of the strength of materials lab is to demonstrate the basic principles in the area of strength and mechanics of materials and structural analysis to the undergraduate students through a series of experiments. In this lab the experiments are performed to measure the properties of the materials such as impact strength, tensile strength, compressive strength, hardness, ductility etc.

Fundamentals of Optimization Techniques (Open Elective)	19ME001	Employability Skills: Optimization methods are used in many areas of study to find solutions that maximize or minimize some study parameters, such as minimize costs in the production of a good or service, maximize profits, minimize raw material in the development of a good, or maximize production. This course gives the knowledge about the different optimizing techniques.
Industrial Robotics & applications	19ME005	Technical Skills: This subject provides the basics of fuzzy logic and neural networks and to Demonstrate and Illustrate about functionalities of Robots and Robotics. Student able to acquire the fundamentals about the Artificial Intelligence, various game planning strategies and the anatomy of robotics.
Data Analytics and Operations Management	19MEC31	Technical Skills: The course focuses on the fundamental and principles of descriptive, inferential statistics, regression, ANOVA analysis, machine learning fundamentals, project planning and project implementation. The goal of this course is to optimize the given data by using various optimization techniques.
Smart Supply Chain Analytics	19MEC32	Technical Skills: The course gives the basic knowledge about the Business Analytics, descriptive analytics and Cognitive Analytics for different applications. This course also gives the prediction techniques to assess the demand requirements and criteria for optimizing. The main objectives of supply chain management are to reduce cost, improve the overall organization performance and customer satisfaction by improving product or service delivery to the consumer
Additive Manufacturing	19ME012	Technical Skills: The Future of Additive Manufacturing in Engineering Will Include New Materials and Systems. Many additive manufacturing systems are not versatile enough to use any material, creating an obstacle to scaling.
Mechanical Measurements and Metrology	19ME504	Employability Skills: The course helps in understanding the different types of measurements and instruments used to measure them which is very much useful for getting jobs in industries.
Metal Cutting and Machine Tools Lab	19ME507	Skill development: This Lab is closely associated for imparting the practical knowledge to the students and gives them hand-on-experience which makes them ready for the shop floor work right from the day-one of their

		work in the industry
Fundamentals of Digital Manufacturing Science	19MEC21	Technical Skills: Digital manufacturing science is a course that it refers to concepts of Digital Manufacturing, Information of Computing Manufacturing, and Information about security technology manufacturing and Concept of Intelligent Manufacturing. With this course students can able to familiarize the basic concepts of digital manufacturing systems and, the technical knowledge in virtual prototyping and reverse engineering.
Manufacturing Technology	20ME301	Technical skills: The objective of this course is to demonstrates the different manufacturing process such as casing, welding and forming to develop the machine element as per the industrial requirement.
Object Oriented Programming through Java	20IT306	Skill development: JavaScript and Java continue to top the list of most in-demand programming languages. Java and JavaScript are predicted to be the most in-demand IT skills
Computational Mathematics using Python	20MA304	Employability Skills:Python is a high-level, interpreted, interactive and object-oriented scripting language. Computational mathematics, the blending of computer science with applied mathematics, provides the computational and mathematical models that record and evaluate data and make predictions. This is course gives the knowledge about the program skills for writing the different mathematical schemes such as Newton-Raphson method, Gauss elimination method, Newton's-Gregory Forward Interpolation, integral value of a function, Simpson rule and Partial Differential Equations.
Python Programming	21BEX07	Technical Skills: The course is designed to provide Basic knowledge of PythonPython is a high-level, interpreted, interactive and object-oriented scripting language. Python is designed to be highly readable. When students complete Introduction to Programming with Python, they will be able to: Build basic programs using fundamental programming constructs like variables, conditional logic, looping, and functions.
Python Programming Lab	21BEX08	Skill development: This course introduced to students for acquiring programming skills in core Python and also to develop the skill of designing

		graphical-user interfaces (GUI) in Python.
Power Plant Engineering	16ME020	Employability Skills: This course develops the high technical skills needed in a power plant. The ways Power plant operators, distributors, and dispatchers must be careful, attentive, and persistent. Detail oriented, Dexterity and Problem-solving skills.
Fluid Mechanics and Hydraulic Machines	20ME304	Technical Skills: The course comprises the fundamentals of fluid properties, fluid flows, fluid statics, fluid dynamics and hydraulic machines. With this course, the student able to understand the basic concepts of pressure measurement, buoyancy, fluid velocity, fluid acceleration and performance parameters for hydraulic machinery
Heat Transfer	19ME603	Technical Skills: The course comprises the fundamentals of heat transfer, and different modes of heat transfer like conduction, convection and radiation. It will be useful to design real time industrial components like heat exchangers, super heaters etc.
Fluid Mechanics and Hydraulic Machines Lab	20ME307	Skill development: Fluids are a key element of study for many engineering disciplines. Fluid Mechanics is of vital importance in energy conversion systems (hydro power, gas turbines, combustion etc.), in process industry (paper, metals, polymers etc.) and for transports (airplanes, ships etc.). The Fluid Mechanics & Hydraulic Machine laboratory is actively engaged to reinforce and enhance understanding of the fundamentals of Fluid Mechanics. The experiments here are designed to demonstrate the applications of the basic fluid engineering principles and to provide a more intuitive and physical Understanding of the theory.
Heat Transfer Lab	19ME606	Skill development: Heat Transfer laboratory provides fundamental and industrial knowledge about modes of heat transfer, like conduction, convection and radiation, and their application. Heat Transfer Lab consists of the following equipment's. Composite Slab Apparatus, convection apparatus heat exchanger, Emissivity apparatus, Stefan-Boltzmann Apparatus, drop and film wise condensation and pin fin apparatus. With this student can able to find the thermal conductivity, heat transfer

		coefficient, emissivity and heat transfer rate for given any material.
Thermodynamics	20ME306	Technical Skills: Topics include basic fundamentals of different kinds thermodynamic systems, different processes, cycles, zeroth, first and second law of thermodynamics, air standard cycles, properties of steam. With this student can able to find the properties of steam for any given conditions, find thermal efficiency of a given engine.
Applied Thermodynamics	20ME401	Technical Skills: Topics include construction and working of SI and CI engines, combustion, and fuel properties with reference to engine power, efficiency, and emissions. Also, it focuses on air compressors. The students examine the working and performance of different types of internal combustion engines: spark-ignition, diesel engines and air compressors.
Thermal Engineering Lab	20ME405	Skill development: The objective is to demonstrate the working principle of Refrigeration and air conditioning. Also, it aims at the performance evolution of heat engines and air compressors.
Full Semester Internship	16ME706	Skill development: Practical skills
Project	16ME804	Skill development: Demonstration of Learning Outcomes
Mini Project	19ME607	Skill development: Demonstration of Learning Outcomes
CC&EC Activities I	20HSX11	Employability Skills: It helps the student to develop aptitude skills, quantitative skills, soft skills for personality development and career growth. I also help in developing design and simulation skills for the student to be industry ready.
CC&EC Activities II	19HSX12	Employability Skills: It helps the student to develop aptitude skills, quantitative skills, soft skills for personality development and career growth. I also help in developing design and simulation skills for the student to be industry ready.

Employability Skills I	20ESX01	Employability Skills: It helps the student to develop aptitude skills, quantitative skills, soft skills for personality development and career growth. It also helps in developing design and simulation skills for the student to be industry ready.
B.Tech. (Electronics and Communication Engineering)		
Analog and mixed signal design	16EC014	Technical skills: The Design courses give a detailed knowledge from the basics of digital systems and Students can demonstrate the design and implementation of digital systems with hardware description language. Students will learn gate level design and FPGA design flow to offer optimal solutions for product implementation. Very Large Scale Integration (VLSI) is a solid career choice and offers job opportunities in core employment.
ASIC verification using system verilog	19ECC12	
RTL coding techniques	19ECC11	
VLSI Design	19EC503	
Biomedical Signal Processing	16EC009	Technical skills: Students will learn soft computing techniques and artificial neural networks to apply for various engineering problems. Students will apply image processing concepts in analysing and interpreting the images obtained through machine vision. signal processing is becoming ever more important because it provides the 'flexibility' of using the same digital hardware for many different applications.
INFORMATION THEORY AND CODING TECHNIQUES	19ECC31	
Speech Processing	16EC007	
DIGITAL IMAGE PROCESSING	16EC005	
IMAGE PROCESSING	19ECC32	
Digital signal Processing	19EC602	
		Employability skills: Embedded Systems will make students extremely attractive to companies doing work in Internet of Things (IoT). Students can demonstrate the design concepts of sensor networks and their
data acquisition system	19ECC21	

Embedded systems	16EC011	communication for a real time application. Students can demonstrate the design and controlling aspects of a product/application through assembly language programming. Students will explore the fundamental and implementation concepts of IoT to nurture business applications. Students will learn to develop systems based on hardware and software co-design. Students will learn design aspects of logic circuits which leverage digital system design skills. Students will demonstrate design aspects of logic circuits which leverage digital system design skills.
Embedded System Design and IoT	19ECC22	
Microprocessors and Microcontrollers	19EC502	
Logic Circuit Design	20EC303	
Logic Circuit Design Lab	20EC307	
Object Oriented Programming	20CSE01	Programming skills: Computer programmers need to have a wide range of skills to perform the many responsibilities of the position at the highest level of professionalism. The most effective programmers combine knowledge, aptitude and technical capability with soft skills such as the ability to work as part of a team and to communicate well with others. Aspiring computer programmers need to be able to demonstrate both types of skills. Students can demonstrate programming through OOPs concepts to offer cost effective and efficient code for applications.
Object Oriented Programming Lab	20CSE02	
Employability Skills-I	20ESX01	Students will demonstrate soft skills and specific domain skills.
Employability Skills-II	19EC605	Students will demonstrate soft skills and specific domain skills.
Engineering Economics and Project Management	19HSX10	Employability skills:Students will learn project schedule using PERT/CPM, construct a resource usage profile for any schedule in a project
Project work	16EC804	Employability skills:Demonstrate problem identification, analysis and design solutions or applications in electronics & communication domain to address the societal needs.
TERM PAPER	19EC506	Employability skills:Based on literature review of Term paper students will

SUMMER INTERNSHIP-1	19EC508	take up a specific problem for which they conduct experiments,use analytical tools to bring out the best output
FULL SEMESTER INTERNSHIP	16EC705	
Mini Project	19EC604	
B.Tech. (Computer Science and Engineering)		
Mini Project	19CS607	The subjects in this domain useful for students to establish team work, think about societal problems, and their solution using appropriate solution. These technologies also enhances the skills related to design and development of software applications. In addition to this, students are able to design and develop an applications by integrating software into hardware to enable the layman to operate hardware devices to accomplish required task.
Summer Internship#1	19CS509	
Term Paper	19CS508	
Mobile Application Development Lab	16CS705	
Web Programming Languages (Full Stack Developer)	19CSC21	
Web Application Developments Framework (Full Stack Developer)	19CSC22	
Full Semester Internship	16CS706	
Project work	16CS804	
Internet of Things	19CS602	
Software Engineering	19CS603	
Human Computer Interaction	16IT006	
Software Project Management	16CS008	
Case Tools Lab	19CS606	
Digital Logic Design	20CS304	
Microprocessors and Microcontroller Programming	19ECE02	
Theory of Computation	19CS504	
Compiler Design	19CS601	
Computer Organization and Architecture	20CS403	
Employability Skills I	20CS409	These Courses Depicts to explore careers in software development, web

CC & EC Activities I	20HSX11	development, data science, or machine learning must learn this most-often used programming language and have a good chance of landing a job. Students are given training on various skills that makes to students improve the communication related skills. Students will learn the basic concepts of management and organisation structure of an industry, concept of Entrepreneurship, Material management cost analysis.	
Employability Skills II	20CS409		
Comprehensive Quiz II (Sem. 5 & 6)	19CS608		
CC & EC Activity II	19HSX12		
Employability Skills – III	19CS609		
Mass Media Communication	20AT009		
Introduction to Journalism (CSE)	20AT008		
Employability Skills - IV	19CS609		
Professional Ethics	16IT802		
E-Commerce	19CS009		
E & M Commerce	16IT011		
Engineering Economics and Project Management	20HSX10		
Environmental Studies	20BEA01		
Probability and Statistics using Python	20MA304		Programming will make the students to provide insight into how products are created, and they can work more efficiently with the technical side of the house and accurately set timelines. It also helps to increase the logic capability, creativity, resilience, imagination, lateral thinking and determination. Problem-Solving skills make the students cognitively equipped to handle anything their jobs throw at them. Problem solvers can observe, judge, and act quickly when difficulties arise when they inevitably do. Programming for problem solving will be help the students to enhance their employability / entrepreneurship / skill development by making them to understand the business perspective, strengthen user experience expertise, learning multiple skills and writing efficient code to solve complex problems.
Data Structures	20CS303		
Data Structures & Algorithms	19CSM42		
Programming, Data Structures and Algorithms Using Python	19CSH13		
Operating Systems	20IT403		
Discrete Mathematical Structures	20CS305		
Object Oriented Programming With C++	20CS306		
Data Structures Lab	20CS307		
Object Oriented Programming Lab	20CS308		
Design and Analysis of Algorithms	20CS404		
Java in Web Technologies	20CS405		
Java in Web Technologies Lab	20CS407		
Principles of Programming Languages	19CS004		
Middleware Technologies	16IT007		

Distributed Operating Systems	19CS006	<p>These courses are designed to focus on learnings about technologies including complex networks, knowledge representation, web based applications, computer vision, and intelligent systems that are used to build high computational systems. The outcomes will highly develop the ability of critical thinking and provides knowledgeable insights to finding solutions. These learnings demonstrate skills in modelling and managing complex data to broaden their knowledge in the specific domain as a result of their work.</p>
Computer Networks	19CS503	
Mobile Computing	19CS005	
Cryptography and Network Security	16IT009	
Cryptography and Network Security	19CS008	
Computer Forensics	16IT010	
Distributed Systems	16IT002	
Fundamentals of Security (Cyber Security)	19ITC31	
Cybernet Security (Cyber Security)	19ITC32	
Cloud Computing	16IT504	
Cloud Computing	19IT503	
Wireless Ad hoc Networks	16CS011	
Artificial Intelligence and Machine Learning	19CS502	
Artificial Intelligence and Machine Learning Lab	19CS507	
Exploratory Data Analytics (AI&ML)	19CSC11	
Fundamentals of Artificial Intelligence	19CS001	
Deep Learning (AI&ML)	19CSC12	
Fundamentals of Machine Learning	19CS002	
Big Data Analytics	16IT701	
Big Data Analytics Lab	16IT705	
Machine Learning	16CS802	
Social Network Analysis	16CS009	
Information Retrieval Systems	16IT003	
Digital Signal Processing	16EC602	
Digital Image Processing	16EC005	
Database Management Systems	20IT304	<p>The objective of this domain is to navigate and host the database as a backend to deploy and furnish the dynamic usage of the objects or routines</p>
Database Management Systems Lab	20IT308	

Information System Design	16IT001	which helps the individual to develop and build models including forms, frames, functions and procedures to work on consistent data either in software or retail firms.
Fundamentals of Databases	19CSM43	
Advanced Databases	19CSH12	
Multimedia Databases	16CS010	
B.Tech. (Information Technology)		
Term Paper	19IT508	The Software Design Courses Emphasizes on ability to work in one or more significant application domains, Work as an individual and as part of a multidisciplinary team to develop and deliver quality software. It helps to upgrade skills on current technologies. These provide a basis with concepts for the software application and ability to use the techniques and tools necessary for engineering practice.
Full Semester Internship	16CS706	
Mini Project	19IT607	
Summer Internship#1	19IT511	
Internet of Things	19IT007	
Mobile Application Development Lab	16CS705	
Project work	16CS804	
Human Computer Interaction	16IT006	
Automata and Compiler Design	19IT602	
Computer Organization and Architecture	20CS403	
Software Project Management	16CS008	
Enterprise Application development Using IBM RAD & Bluemix	16IT016	
Digital Logic Design	20CS304	
Employability Skills I	20IT408	
CC & EC Activities I	20HSX11	
Comprehensive Quiz I (Sem. 3 & 4)	19CS408	
Employability Skills II	20IT608	
Environmental Studies	20BEA01	

CC & EC Activity II	19HSX12	concepts of management and organisation structure of an industry, concept of Entrepreneurship, Material management cost analysis.
Engineering Economics & Project Management	19HSX10	
Organizational Behavior (IT)	16AT008	
Professional Ethics	16IT802	
E & M Commerce	16IT011	
Data Structures	20CS303	Students will learn about fundamentals of computer and programming language, draw flow chart to solve given problem logically and develop algorithm to solve given program. Introduce techniques for developing solutions to business problems using programming as an IT resource/tool. These courses helps in applying problem solving concepts by analyzing problems and testing, and implementing realtime solutions using different programming languages.
Discrete Mathematical Structures	20CS305	
Object Oriented Programming through Java	20IT306	
Data Structures Lab	20CS307	
Operating Systems	20IT403	
Probability and Statistics	20MA405	
Design and Analysis of Algorithms	19CS404	
Web Technologies	20IT405	
Python Programming Laboratory	20IT406	
Operating Systems Laboratory	20IT407	
Middleware Technologies	16IT007	
Data Communication Systems	20IT305	
Computer Networking	20IT404	
Cloud Computing	19IT503	
Cloud Computing Lab	19IT507	
Cryptography and Network Security	16IT009	
Application Security	16IT008	
Wireless Ad hoc Networks	16CS011	
Fundamentals of Cloud Computing	19IT005	
Foundation course in Security Identity & Access Management.	16IT018	

Computer Forensics	16IT010	
Artificial Intelligence	19IT502	
Big Data Analytics	16IT701	Data Science Courses helps in applying mathematical principles to the analysis of data, analyze very large data sets in the context of real world problems. Develop and implement data analysis strategies based on theoretical principles, ethical considerations, and detailed knowledge of the underlying data. Exhibit an ability to articulate, assess and apply appropriate theories and principles of information management. Exemplify knowledge of the underlying principles and evaluation methods for analyzing information for financial decision-making, investing capital, budgeting and forecasting. Illustration of appropriate research methods used to collect and analyze data for decision-making and communications; inclusive of traditional and digital forms of communication.
Big Data Analytics Lab	16IT705	
Machine Learning	16CS802	
Qualitative Data Analysis	16CS003	
Digital Signal Processing	16EC602	
Social Network Analysis	16CS009	
Digital Image Processing	16EC005	
Data Analytics-I	16IT012	
Data Analytics-II	16IT013	
Data Analytics-III	16IT014	
Big Data Analytics with Hadoop Platform	16IT017	
Database Management Systems	20IT304	Database courses depict the basic concepts and various data models used in database design. ER modelling concepts use and design queries using SQL and Extend normalization for the development of application softwares. These courses helps in building effective Multimedia Database Systems, Text Types, Document Retrievals and Image DBs with Relations and R-Tree, Audio and video Databases.
Database Management Systems Lab	20IT308	
Multimedia Databases	16CS010	
Women in Leadership	19AT014	Women in the workplace face unique challenges and opportunities. So, a unique curriculum was designed to help and develop their personal leadership style and strengthen their influence and impact within the organization
Exploratory Data Analysis	19CSC11	Career path elective subjects are introduced in the syllabus with a main motive that students can choose their area of interest related to their employment. If one chooses a career that matches their interest they are more likely to enjoy the work they do. When guiding students with their career it is thus important to identify these interests. This Provides
Web Programming Languages	19CSC21	
Fundamentals of Security	19ITC31	
Deep Learning	19CSC12	
Web Application Development Framework	19CSC22	

Cyber Security	19ITC32	students with an opportunity to connect their classroom learning with workplace relevance will result in many positive learning outcomes such as motivation, grit, and career goal setting. Generally speaking, career pathways help boost professional development. and also increases the skill sets of the students which then results to an increase in their confidence as well.
Natural Language Processing	19CSC13	
Web Application Databases	19CSC23	
Cloud Security	19ITC33	

Principal