PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	201HS1T01	Communicative English		✓		Students are able to demonstrate communication skills to express fluently in both written as well as oral form of language which is very much essential for the career growth.
2	201BS1T01	Differential Equations and Linear algebra		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using ordinary differential equations, system of linear equations in various engineering disciplines.
3	201BS1T04	Engineering Chemistry				
4	201ES1T02	Programming For Problem Solving Using C	✓			Students are able to acquire skills related to control structures, arrays, string formulas enabling them to be employed in software industry.
5	201ES1I02	Computer Engineering Workshop		✓		Students are able to acquire skills related to Microsoft office tools, basics of Machine Learning and IOT.
6	201HS1L01	Communicative English Lab		✓		Students are able to demonstrate technical skills to express fluently in both written as well as oral form of language which is very much essential for the career growth.
7	201BS1L03	Engineering Chemistry Lab				
8	201ES1L02	Programming for Problem Solving using C Lab	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.
9	201MC1T01	Environmental Science				

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
10	201BS2T07	Numerical Methods and Complex Variables		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals, analytical properties of functions of complex variables, complex integration.
11	201BS2T09	Applied Physics				
12	201ES2T11	Computer Organization	✓			Students are nurtured with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
13	201ES2T04	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
14	201ES2T07	Data Structures through C	✓			Students are able to acquire technical skills related to demonstrate fundamental algorithmic problems that enable them to be employed as software developers
15	201BS2L04	Applied Physics Lab				
16	201ES2L06	Data Structures through C Lab	✓			Students are able to acquire programming skills related to OOP's, and Basic Data structure like stacks, queues, linked lists, trees and tries which enable them to employed as a product developer.
17	201ES2L14	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
18	201MC2L01	Professional Communication Skills Lab		✓		Students are able to demonstrate technical skills to express fluently in both written as well as oral form of language which is very much essential for the career growth.
19	201MC2T02	Constitution of India		✓		This subject helps the student to demonstrate their technical skills for constitution making and its importance for building a democratic India, to make them understand the executive, legislative and judiciary system.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
20	191BS3T14	Discrete Mathematics		✓		Students are able to demonstrate problem solving skills by learning Mathematical logic , Inference Theory, Graph Theory .
21	191ES3T13	Digital Logic Design				
22	191HS3T02	Managerial Economics and Financial Analysis			✓	Students are able to apply the knowledge of economic and financial management enabling them to become an entrepreneur in any domain of their choice.
23	191CS3T01	Software Engineering				
24	191CS3T02	Object Oriented Programming through Java	✓			Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using Java, enabling them to be employed as software developers.
25	191CS3T03	Advanced Data Structures	✓			Students are able to acquire technical skills related to demonstrate advanced algorithmic problems enabling them to be employed as software developers.
26	191CS3L01	Object Oriented Programming through Java Lab	✓			Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using Java, enabling them to be employed as software developers.
27	191CS3L02	Advanced Data Structures Lab	✓			Students are able to acquire technical skills related to demonstrate advanced algorithmic problems enabling them to be employed as software developers.

| 28 | 191MC3A03 | Employability Skills - I | ✓ | | | This subject helps the students to acquire skills to be placed in a company as it will impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence. |
| 29 | 191MC3A04 | Essence of Indian Traditional Knowledge | | ✓ | | This subject demonstrates technical skills as they were able to understand concept of Traditional knowledge and its importance, enactments related to the protection of traditional knowledge and traditional knowledge in Agriculture and Medicine. |

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	191BS4T18	Probability and Statistics		✓		Students are able to demonstrate problem solving skills by learning about random variables , probability distributions, sampling theory , test of hypothesis , correlation and regression.
31	191CS4T04	Formal Languages and Automata Theory		✓		Students will be able to acquire technical skills related to Finite Automata, Grammars and Parsers.
32	191CS4T05	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
33	191CS4T06	Design and Analysis of Algorithms		✓		Students are able to demonstrate problem solving skills by apply knowledge of computing and mathematics to algorithm design
34	191ES4T15	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
35	191CS4T07	Computer Organization	✓			Students are nurtured with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
36	191CS4L03	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
37	191ES4L17	Internet of Things Lab	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
38	191MC4A05	Employability Skills - II	✓			This subject helps the students to acquire skills to be placed in a company as it will impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence.
39	191MC4A06	Biology for Engineers		✓		Students are able to demonstrate skills related to biology in a general way by providing a framework for understanding life at the cellular and molecular structures

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
40	171CS5T11	Compiler Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of Different Language Compilers and enabling them to be employed for designing of Compilers.
41	171CS5T12	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
42	171CS5T13	Design & Analysis of Algorithms		✓		Students are able to demonstrate problem solving skills by apply knowledge of computing and mathematics to algorithm design
43	171CS5T14	Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input &output and memory operations which enables them to be employed for Hardware core side job opportunities
44	171CS5E01	Unix and Shell Programming		✓		Students are able to demonstrate programming solving skills by Identifying and using UNIX utilities to create and manage simple file processing operations
45	171CS5E02	Advanced Computer Architecture	✓			Students are able to acquire skills related to design, and synthesize advanced computers enabling them to be employed for designing and manufacturing of computer architectures.
46	171CS5E03	Computer Graphics				
47	171CS5E04	Software Testing Methodologies		✓		Students are able to acquire technical skills by applying different software testing techniques and strategies.
48	171HS5T06	Employability Skills – III	✓			This subject helps the students to acquire skills to be placed in a company as it will impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence.

49	171CS5L05	Operating System and Linux Lab	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input &output and memory operations with Unix which enables them to be employed for Hardware core side job opportunities
50	171CS5L06	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
51	171CS5L07	Software Testing Lab		✓		Students are able to acquire technical skills by applying different software testing techniques and strategies.
52	171CS5L08	Compiler Design Lab	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of Different Language Compilers and enabling them to be employed for designing of Compilers.
53	171CS5S01	MOOCs – I		✓		Students are able to acquire technical skills by choosing an online course of their choice which is not related to academics

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
54	171CS6T15	Computer Networks	✓			Students are able to acquire skills related to computer networks, functionalities of reference model layers and transmitting data between nodes enabling them to be employed for networking environment
55	171CS6T16	Web Technologies	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as Front End developers.
56	171CS6T17	Data Ware Housing and Data Mining	✓			Students are able to acquire technical skills to synthesize and pre-process the raw data, and apply different classification and prediction algorithms which enable them to be employed as Data Analyst.
57	171CS6E05	Software Quality Assurance		✓		Students are able to demonstrate technical skills by Understanding the fundamental concepts of software automation
58	171CS6E06	Bio Informatics		✓		Students are able to gain knowledge on forensic analysis, gene therapy and molecular medicine .
59	171CS6E07	Human Computer Interaction		✓		Students are able to demonstrate GUI components such as Menus, Forms, Dialog boxes and gain knowledge on various design paradigms, online documentation concepts, information retrieval & its presentation.
60	171CS6E08	Social Networks and Semantic Web		✓		Students are able to acquire technical skills with the fundamentals of Semantic Web technologies.
61	171CS6E09	Pattern Recognition		✓		Students are able to explain and compare a variety of pattern classification, structural pattern recognition, and pattern classifier combination techniques.
62	171CS6E10	Parallel Computing		✓		Students are able to understand techniques of parallel algorithm development and programming on different parallel platform.
63	171CS6E11	Storage Area Networks		✓		Students are able to acquire technical skill by understand the Storage Area Networks characteristics and components.
64	171CS6E12	E - Commerce		✓		Students are able to Understand the basic concepts and technologies used in the field of management.

65	171HS6T07	Employability Skills – IV	✓			This subject helps the students to acquire skills to be placed in a company as it will impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence.
66	171CS6L09	Computer Networks Lab	✓			Students are able to acquire skills related to computer networks, functionalities of reference model layers and transmitting data between nodes enabling them to be employed for networking environment
67	171CS6L10	Data Ware Housing and Data Mining Lab	✓			Students are able to acquire technical skills to synthesize and pre-process the raw data, and apply different classification and prediction algorithms which enable them to be employed as Data Analyst.
68	171CS6L11	Web Technologies Lab	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
69	171CS6S02	MOOCs – II		✓		Students are able to demonstrate technical skill of various online courses available adding to their curricular courses

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
70	171CS7T18	Cryptography and Network Security		✓		Students are able to acquire technical skills to work with different cryptographic techniques, Symmetric and asymmetric cryptographic techniques, key management and security at network level.
71	171CS7T19	UML and Design Patterns		✓		Students are able to demonstrate technical skill of unified modelling language and design pattern used in various software project.
72	171CS7T20	Cloud Computing	✓			Students are able to acquire skills related to Cloud computing and distributed computing enabling them to be employed for cloud services sector
73	171HS7T05	Management Science			✓	Students are able to apply the knowledge of economic and financial management enabling them to become an entrepreneur in any domain of their choice.
74	171CS7E13	Software Project Management			✓	Students are able to apply the knowledge of Software Project Management skills and enabling them to become an entrepreneur in any domain of their choice.
75	171CS5E14	Big Data Analytics	✓			Students are able to gain skills related to Big data analytics and related tool enabling them to be employed for data analytics role.
76	171CS7E15	Image Processing		✓		Students are able to acquire technical skills related to image processing by using various tools related to computer vision.
77	171CS7E16	Cyber Laws		✓		The students are able to demonstrate Technical skills by Modelling of cyber laws and security.
78	171CS7E17	Middleware Technologies		✓		Students are able to acquire technical skills related to transfer information from one program to one or more other programs in a distributed environment
79	171CS7E18	Artificial Intelligence and Machine Learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.

80	171CS7E19	Information Retrieval Systems		✓		Students are able to acquire technical skills related to information retrieval systems by using various retrieving techniques used in real time environment.
81	171CS7E20	Mobile Computing				
82	171CS7L12	UML and Design Patterns Lab		✓		Students are able to demonstrate technical skill of unified modelling language and design pattern used in various software project.
83	171CS7L13	Big Data Analytics Lab	✓			Students are able to gain skills related to Big data analytics and related tool enabling them to be employed for data analytics role.
84	171CS7P01	Industry Oriented (Internship) Minor Project	✓			Students will be able to demonstrate problem identification, analysis, design solutions or applications in electronics and communication domain through the acquired technical, cognitive, communication and creative skills to address societal needs.

VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
85	171CS8E21	Agile Methodologies	✓			Students are able to acquire skills relates to software Process models and enabling them to acquire employed as software developer.
86	171CS8E22	Cyber Security	✓			Students are able to acquire skills related to design, develop and evaluate the performance of secure systems enabling them to be employed for designing and manufacturing of secure communication equipment.
87	171CS8E23	Distributed Databases		✓		Students are able to demonstrate technical skills of Query Optimization, Reliability and Concurrency Control in projects.
88	171CS8E24	Distributed Systems		✓		Students are able to demonstrate technical skills of Interprocess Communication using java RMI, Distributed File Systems and analysis various distributed algorithms in projects.
89	171CS8O01	Microprocessor and Multi Core Systems		✓		Students are able to demonstrate technical skills of modern multi-core processors and its applications.
90	171CS8O02	Embedded Systems	✓			Students are able to acquire skills related to design, program and implement embedded systems and evaluate their performance enabling them to be employed for designing and manufacturing of electronic equipment with embedded systems.
91	171CS8O03	Soft Computing		✓		Students are able to acquire technical skills of Implement, evaluate and compare solutions by various soft computing approaches for finding the optimal solutions.
92	171EE8O05	Robotics		✓		Students are able to acquire skills related to the measurement of linear and angular measuring instruments, working of measuring instruments and control systems.
93	171CS8O04	Operations Research		✓		Students are able to demonstrate technical skill to formulate and solve problems as networks and graphs.
94	171CS8O05	Optical Communications	✓			Students are able to acquire skills related to design, fabricate and evaluate the performance of optical communication systems enabling them to be

						employed for designing, manufacturing and implementation of fiber optic communication systems
95	171EE8O07	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
96	171EC8O02	Disaster Management		✓		Students are able to demonstrate technical skill of characterizing various disasters occurring in the environment and apply them in various disciplines of day to day life
97	171CS8O06	Renewable Energy sources		✓		Students are able to acquire skills related to solar, wind and bio-mass energy resources and conversion principles and techniques of various renewable resources.
98	171CS8O07	Nano Technology and its Applications		✓		Students are able to acquire technical skills by understanding the basic mathematical techniques for describing nano systems
99	171CS8P02	Project Work	✓			Students will be able to demonstrate problem identification, analysis, design solutions or applications in electronics and communication domain through the acquired technical, cognitive, communication and creative skills to address societal needs.
TOTAL		**99**	**44**	**43**	**3**	

Program Coordinator

Head of the Department