PROGRAM STRUCTURE
I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	171HS1T01	English – I		✓		Students are able to demonstrate communication skills express their thoughts fluently in both written as well as oral form of language which is very much essential for the career growth and enhances the language competency.
2	171BS1T01	Mathematics – I		✓		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	171BS1T02	Mathematics – II		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using partial differential equations and their applications in various engineering disciplines.
4	171BS1T04	Applied Physics				
5	171ES1T03	Engineering Drawing		✓		Students are able to acquire skills related to creating technical drawings by displaying from different angles of projection and adding dimensional information.
6	171ES1T01	Computer Programming	✓			Students are able to acquire programming skills related to Structured programming, arrays, functions, pointers, structures and unions that enable them to be employed as a software developer.
						Students are able to demonstrate technical skills to express fluently in both written as well as oral forms of language which is very much

7	171HS1L01	English Communication Skills Lab – I		✓		essential for career growth.
8	171BS1L04	Applied Physics Lab				
9	171ES1L01	Computer Programming Lab	✓			Students are able to acquire programming skills related to Structured programming, arrays, functions, pointers, structures and unions enabling them to be employed as a software developer.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
10	171HS2T03	English – II		✓		Students are able to demonstrate communication skills and express their thoughts fluently in both written as well as oral form of language which is very much essential for the career growth and enhances the language competency.
11	171BS2T06	Mathematics – III		✓		Students can demonstrate problem solving skills by evaluating improper and vector integrals applicable in various engineering disciplines.
12	171HS2T02	Environmental Studies				
13	171BS2T05	Applied Chemistry				
14	171ES2T02	Engineering Mechanics	✓			Employability -Students are able to acquire skills related to principles of friction, kinetics, kinematics, resolving forces, trusses etc which forms the crux of design sciences.
15	171CS2T01	Data Structures through C	✓			Employability -Students are able to acquire technical skills related to demonstrate fundamental algorithmic problems that enable them to be employed as software developers

16	171HS2L02	English Communication Skills Lab – II		✓		Students are able to demonstrate technical skills to express fluently in both written as well as oral forms of language which is very much essential for career growth.
17	171BS2L03	Applied Chemistry Lab				
18	171ES2L02	Engineering Workshop & IT Workshop		✓		Students are able to acquire skills related to system troubleshooting, implement MS office tools, develop LaTeX documents and to work with Linux commands. Students are able to acquire skills related to building various joints in different trades for several applications.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
19	R1621051	Statistics with R Programming			✓	Students are able to acquire skills related to R commands, Graphical representation of data sets, and visualization Techniques and also enabling them to be employed for Data analyst.
20	R1621052	Mathematical Foundations of Computer Science		✓		Students are able to demonstrate problem solving skills by learning Mathematical logic , Graph Theory and Number Theory .
21	R1621053	Digital Logic Design		✓		Students are able to demonstrate technical skills related to working with logic circuits, developing K-Maps and working with multiplexers
22	R1621054	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
23	R1621055	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.
24	R1622121	Computer Graphics		✓		Students are able to demonstrate technical skill to develop graphical applications using line, polygon, curve drawing and clipping algorithms, design 2d and 3d applications.
25	R1621057	Data Structures through	✓			Students are able to acquire programming skills related to OOP's, and Basic Data structure like stacks, queues, linked lists, trees

		C++Lab				and tries which enable them to employed as a product developer.
26	R1621058	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
27	R1622052	Java Programming	✓			Students are able to acquire skills related to java programming enabling them to be employed as software developers.
28	R1622122	E-Commerce		✓		Students are able to acquire technical skills to identify different categories and trends in e-commerce applications, understanding technologies used behind e-commerce, pro's and con's of e-commerce applications.
29	R1622054	Computer Organization	✓			Students are able to acquire technical skills which help them to work with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
30	R1622123	Object Oriented Analysis and Design using UML		✓		Students are able to acquire technical skills to develop different UML diagrams like use case, class, sequence, collaboration, component and deployment diagrams.
31	R1622056	Principles of Programming Languages		✓		Students are able to acquire technical skills to gain knowledge of different programming constructs like modular and logic programming, OOP's concepts, Storage of procedures in a recursive call and Data Structures.
32	R1622124	Unified Modeling Languages Lab		✓		Students are able to acquire technical skills to develop different UML diagrams like usecase, class, sequence, collaboration, component and deployment diagrams

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33	R1622058	Java Programming Lab	✓			Students are able to acquire skills related to java programming enabling them to be employed as software developers.

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V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
34	RT31121	Software Engineering		✓		Students are able to acquire the technical skill of Software Development Models, Software Development Life Cycle.
35	RT31052	Data Communication		✓		Students are able to acquire skills of various analogy and digital modulation and demodulation techniques, multiplexing schemes, communication protocols
36	RT31123	Advanced JAVA	✓			Students are able to acquire programming skills which helps them to make use of collections, Java Beans, Servlets and JSP which enable them to be employed as server side developers.
37	RT31054	Data Base Management Systems	✓			Students are able to acquire skills related to SQL commands, constraints, views, models, transactions, storage and indexing enabling them to be employed for backend developer.
38	RT31055	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 .
39	RT31126	Advanced JAVA Lab	✓			Students are able to acquire programming skills which helps them to make use of collections, Java Beans, Servlets and JSP which enable them to be employed as server-side developers.
40	RT31127	Operating System		✓		Students are able to acquire technical skills related to process

		Lab					scheduling algorithms used for allocating process to resources, critical section and murual exclusion, semaphores, dealocks, paging and page replacement algorithms.
41	RT31128	Database Management Systems Lab	✓				Students are able to acquire skills related to Writing SQL Queries, implement normalization techniques and apply transaction processing tehniques enabling them to be employed as a Database Administrator.
42	RT31057	Linux Programming Lab	✓				Students are able to acquire technicalskills related to linux commands, awkm sed, grep commands which enable the them to be employed as Server administrator.
43	RT31016	IPR and Patents- 1				✓	It helps the graduates safe guard the IP and innovations at their place of work.
44	RT31059	Seminar		✓			Students are able to demonstrate technical skills by giving a seminar on emerging trends in the IT sector.

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
45	RT32053	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.
46	RT32052	Data Ware housing and 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.
47	RT32121	Software Testing		✓		Students are able to acquire technical skills that enable them to identify and implement differnet testing strategies.
48	RT32054	Design and Analysis of Algorithms		✓		Students are able to demonstrate problem solving skills by apply knowledge of computing and mathematics to algorithm design.
49	RT32055	Web Technologies	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
50	RT32128	Software Testing Lab		✓		Students are able to acquire technical skills that enable them to identify and implement differnet testing strategies.
51	RT32127	Computer Networks Lab		✓		Students are able to acquire technical skills to identify different types of networks avaialble, message transfer techniques over a network routing and different types of routing algorithms.

52	RT32056	IPR and Patents-II				✓	It helps the graduates safe guard the IP and innovations at their place of work.
53	RT32129	Web Technologies Lab					

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
54	RT41051	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.
55	RT41052	UML and Design Patterns		✓		Students are able to demonstrate technical skill of unified modelling language and design pattern used in various software project.
56	RT41053	Mobile Computing	✓			Students are able to acquire technical skills which helps them in developing mobile applications using J2EE and android which enable them to be employed as Mobile Application Developer.
57	RT41121	Embedded and Real Time Systems		✓		Students are able to demonstrate technical skills of Simulators, emulators, Debuggers, Embedded Product Development life cycle and Real Time Operating System.
58	RT41056	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.
59	RT41058	Multimedia Computing		✓		Students are able to acquire technical skills on media characteristics, compression standards, multimedia representation, data formats, multimedia technology development.
60	RT4105B	Hadoop and Big Data	✓			Students are able to gain skills related to Big data analytics and related tool enabling them to be employed for data analytics role.

61	RT4105C	Software Project Management		✓		Students are able to acquire skills to plan and manage projects at each stage of the software development life cycle (SDLC).
62	RT41122	Computer Vision				
63	RT4105E	Advanced Databases	✓			Students are able to acquire technical skills to design and implement advanced queries using Structured Query Language and also design, construct and maintain a database and database objects using procedural language constructs which enable them to employed as Database Administrator.
64	RT4112M	Mobile Application Development Lab	✓			Students are able to acquire technical skills which helps them in developing mobile applications using J2EE and android which enable them to be employed as Mobile Application Developer.
65	RT4112O	Software Engineering Lab		✓		Students are able to acquire technical skills to plan and manage projects at each stage of the software development life cycle (SDLC)
66	RT4112N	Hadoop and Bigdata Lab				.
67	RT42121	Mathematical Opimization				
68	RT42051	Distributed Systems		✓		Students are able to demonstrate technical skills of Interposes Communication using java RMI, Distributed File
69	RT4112L	UML & Design Patterns Lab				

VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
70	RT42052	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.
71	RT42053A	Human Computer Interaction		✓		Students are able to demonstrate GUI components such as Menus, Forms, Dialog boxes and gain knowledge on various design paradigms,
72	RT42053B	Advanced Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System
73	RT42053C	Mobile Adhoc & Sensor Networks		✓		Students are able to acquire technical skills to work on issues and solutions of various layers of Manets, namely MAC layer, Network Layer and Transport Layer in Manets and WSN.
74	RT42053D	Pattern Recognition		✓		Students are able to explain and compare a variety of pattern classification, structural pattern recognition, and pattern classifier combination techniques.
75	RT42122	Project				
TOTAL		75	26	37	4	

Program coordinator

Head of the Department