PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	191HS1T01	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	191BS1T01	Differential Equations and Linear Algebra		✓		Students are able to demonstrate problem solving skills by modeling physical phenomenon using Partial Differential Equations and Vector Calculus in various engineering disciplines.
3	191BS1T03	Applied Physics				
4	191ES1T01	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	191HS1L01	Communicative English Lab -I		✓		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

6	191BS1L03	Applied Physics Lab				
7	191ES1L01	Programming For Problem Solving Using C Lab		✓		Students are able to demonstrate technical skill of solving real time complex problems using C.
8	191ES1L02	Basic Engineering Workshop		✓		Students are able to acquire skills related to building various joints in different trades for several applications.
9	191MC1A01	Environmental Science				
10	191MC1A02	Constitution of India				

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
11	191BS2T10	Numerical Methods and Complex Variables		✓		Students are able to demonstrate problem solving skills by studying analytical properties of functions of complex variables whose applications can be observed in various engineering disciplines
12	191BS2T09	Engineering Chemistry		✓		
13	191ES2T02	Engineering Graphics and Design		✓		Students are able to demonstrate technical skills related to working with logic circuits, developing K-Maps and working with multiplexers
14	191ES2T03	Essential Electrical and Electronics Engineering	✓			Students are able to demonstrate technical skill of characterizing electronic devices, modeling and analysis of electronic circuits in logging industry.
15	191ES2T09	Data Structures through C++				
16	191HS2L02	Communicative English Lab-II		✓		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.
17	191ES2L10	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.
18	191BS2L04	Engineering Chemistry Lab				

| 19 | 191ES2L11 | 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. |
| 20 | 191PR2P01 | Engineering Exploration 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. |

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
21	171BS3T08	Mathematical Foundations of Computer Science		✓		Students are able to demonstrate problem solving skills by implementing mathematical logic, number theory and graph theory.
22	171ES3T23	Digital Logic Design		✓		Students are able to demonstrate technical skills related to working with logic circuits, developing K-Maps and working with multiplexers
23	171CS3T02	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.
24	171CS3T03	Object Oriented Programming through C++	✓			Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using C++, enabling them to be employed as software developers.
25	171HS3T04	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.
26	171CS3T04	Advanced Data Structures	✓			Students are able to aquire technical skills related to demonstrate advanced algorithmic problems enabling them to be employed as software developers.
27	171HS3A10	Employability Skills – I	✓			This subject helps the students to accquire 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.
28	171CS3L01	Object Oriented Programming Lab	✓				Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using C++, enabling them to be employed as software developers.
29	171CS3L02	Advanced Data Structures Lab	✓				Students are able to aquire technical skills related to demonstrate advanced algorithmic problems enabling them to be employed as software developers.
30	171HS3A09	Professional Ethics & Human Values					

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
31	171CS4T05	Software Engineering				
32	171IT4T01	Language Processors				
33	171CS4T07	Java Programming	✓			Students are able to acquire skills related to java programming enabling them to be employed as software developers.
34	171CS4T08	Database Management Systems				
35	171HS4T05	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.
36	171CS4T10	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.
37	171CS4L03	Java Programming Lab	✓			Students are able to acquire skills related to java programming enabling them to be employed as software developers.
38	171CS4L04	Database Management Systems Lab	✓			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
39	171HS4A11	Employability Skills – II	✓			This subject helps the students to accquire 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.
40	171HS4A08	IPR and Patents			✓	It helps the graduates safe guard the IP and innovations at their place of work.

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
41	171IT5T02	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.
42	171CS5T12	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
43	171IT5T03	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.
44	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.
45	171IT5E01	Artificial Intelligence		✓		Students are able to demonstrate technical skill of searching techniques used in AI, Expert systems, Knowledge representation and fuzzy logic.
46	171CS5E02	Advanced Computer	✓			Students are able to acquire skills related to design, and synthesize advanced computers enabling them to be employed for designing and

		Architecture				manufacturing of computer architectures.
47	171CS5E03	Computer Graphics	✓			Students are able to aquire related 2D,3D graphical representations and basic graphic programming using openGL enabling them to employed as graphic designer.
48	171CS5E04	Software Testing Methodologies		✓		Students are able to acquire technical skills by applying different software testing techniques and statergies.
49	171HS5T06	Employability Skills – III				This subject helps the students to accquire 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.
50	171IT5L01	Operating Systems and Computer Networks 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 which enables them to be employed for Hardware core side job opportunities.
51	171CS5L06	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
52	171CS5L07	Software Testing Lab		✓		Students are able to acquire technical skills by applying different software testing techniques and statergies.
53	171IT5L02	Unix and Shell Programming Lab		✓		Students are able to demonstrate programming solving skills by Identifying and using UNIX utilities to create and manage simple file processing operations
54	171IT5S01	MOOCs – I				

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
55	171IT6T04	Object Oriented Analysis and Design Using UML		✓		Students are able to acquire technical skills to develop different UML diagrams like usecase, class, sequence, collaboration, component and deployment diagrams.
56	171CS6T16	Web Technologies	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
57	171CS6T17	Data Warehousing and Data Mining	✓			Students are able to acquire technical skills to synthesize and preprocess the raw data, and apply different classifiarion and prediction algorithms which enable them to be employed as Data Analyst.
58	171CS6E05	Software Quality Assurance		✓		Students are able to demonstratetechnical skills by Understanding the fundamental concepts of software automation
59	171IT6E02	Neural Networks		✓		Students are able to demonstrate technical skill of Pereptron, NN's and Deep Neural Network's.
60	171CS6E08	Social Networks and Semantic Web		✓		Students are able to acquire technical skills with the fundamentals of Semantic Web technologies.
61	171IT6E03	Design and Analysis of Algorithms	✓			Sudents are able to acquire technical skills to work with different algorithemic strategies like greedy, dynamics programming, back tracking which enable them to be employed as a product developer.

62	171IT6E04	Advanced Computer Networks		✓			Students are able to demonstrate technical skills of different routing techniques, MANET's and protocols applied at different levels
63	171CS6E10	Parallel Computing		✓			Students are able to understand techniques of parallel algorithm development and programming on different parallel platform.
64	171IT6E05	Multimedia Programming		✓			Students are able to acquire technical skills on media characteristics, compression standards, multimedia representation, data formats, multimedia technology development.
65	171CS6E12	E – Commerce		✓			Students are able to Understand the basic concepts and technologies used in the field of management.
66	171HS6T07	Employability Skills – IV	✓				This subject helps the students to accquire 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.
67	171IT6L03	Unified Modeling Language Lab		✓			Students are able to acquire technical skills to develop different UML diagrams like usecase, class, sequence, collaboration, component and deployment diagrams
68	171CS6L10	Data Warehousing and Data Mining Lab	✓				Students are able to acquire technical skills to synthesize and preprocess the raw data, and apply different classifiarion and prediction algorithms which enable them to be employed as Data Analyst.
69	171CS6L11	Web Technologies Lab	✓				Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.

| 70 | 171IT6S02 | MOOCs – II | | | | |

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
71	R1641051	Cryptography and Network Security		✓		Students are able to demonstrate technical skill of encryption, decryption and different types of attacks in Cryptography and Network Security.
72	R164105C	Mobile Computing		✓		Students are able to demonstrate technical skill of mobile computing nomenclature to describe and analyze existing mobile computing frameworks and architectures
73	R1641121	Data Ware Housing and Business Intelligence		✓		Students are able to demonstrate technical skill of involving planning, designing, building, populating, and maintaining a successful data warehouse.
74	R1641054	Managerial Economics and Financial Analysis			✓	Students are able to demonstrate Competency in gaining the managerial skill set and enabling them to be an entrepreneur.
75	R164105A	Big Data Analytics	✓			Students are able to gain skills related to Big data analytics and related tool enabling them to be employed for data analyics role.
76	R164105B	Information Retrieval Systems		✓		Students are able to acquire technical skills related to information retrieval systems by using various retreiving techniques used in real time enviroment.
77	R164112A	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.

78	R164112B	Multimedia Programming		✓		Students are able to acquire technical skills on media characteristics, compression standards, multimedia representation, data formats, multimedia technology development.
79	R164105D	Cloud Computing	✓			Students are able to acquire skills related to Cloud computing and distributed computing enabling them to be employed for cloud services sector.
80	R164105E	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.
81	R164112C	Machine Learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.
82	R164112D	Decision Support System		✓		Students are able to acquire skills realted to classifcationand regression techniques.
83	R1641127	Mobile Computing 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.
84	R1641128	Cryptography and Network Security Lab		✓		Students are able to demonstrate technical skill of encryption, decryption and different types of attacks in Cryptography and Network Security.

VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
85	R1642051	Distributed Systems		✓		Students are able to acquire skills to understand the protocols and architectures needed to establish a distributed network.
86	R1642052	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.
87	R1642121	Management Information System		✓		Students are able to demonstrate technical skill to demonstrate System Analysis, Design and decission making in a businees environment.
88	R164205A	Concurrent and Parallel Programming		✓		Students are able to acquire skills related to parallel processors, parallel computing, hardware and configuration required to perfrom parallel processing.
89	R164212A	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.
90	R164205B	Artificial Neural Networks		✓		Students are able to demonstrate technical skill of Pereptron, NN's and Deep Neural Network's.
91	R164212B	Software Quality Assurance		✓		Students are able to demonstratetechnical skills by Understanding the fundamental concepts of software automation.
92	R1642055	Seminar				

93	R1642056	Project	✓			students will be able to demonstrate problem identification, analysis, design solutions or applications in eletronics and communication domain through the aquired technical, cognitive, communication and creative skills to address societal needs.
TOTAL		**93**	**36**	**36**	**6**	

Program coordinator

Head of the Department

Head of the Department
Department of IT
Aditya Engineering College