PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	192CS1T01	Mathematical Foundations of Computer Science		✓		Students are able to demonstrate problem solving skills by implementing mathematical logic, number theory and graph theory.
2	192CS1T02	Advanced Data Structures & Algorithms	✓			Students are able to acquire technical skills related to demonstrate advance algorithmic problems enabling them to be employed as software developers.
3	192CS1E01	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.
4	192CS1E02	Digital Image Processing		✓		Students are able to acquire technical skills related to image processing by using various tools related to computer vision.
5	192CS1E03	Advanced Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input and output and memory operations which enables them to be employed for Hardware core side job opportunities
6	192CS1E04	Advanced Computer Networks				
7	192CS1E05	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
8	192CS1E06	Object Oriented Software Engineering		✓		Students are able to acquire technical skills to understand various O-O concepts along with their applicability contexts
9	192HS1T01	Research Methodology and IPR		✓		Students can gain knowledge about the methods of study, observation, comparison and experiment along with different types of Intellectual property rights.

10	192CS1L01	Advanced Data Structures & Algorithms Lab	✓			Students are able to acquire technical skills related to demonstrate advance algorithmic problems enabling them to be employed as software developers.
11	192CS1L02	Advanced Computing Lab	✓			Students can get hands on experience on web services, virtual environments, use of Hadoop enabling them to work easily as big data engineers.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
12	192CS2T03	Machine learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.
13	192CS2T04	MEAN Stack Technologies	✓			Students are able to deploy and test web applications using MongoDB, Angular and Node JS enabling them to be employed as mean stack developers
14	192CS2E07	Advanced Databases and Mining		✓		Students are able to get knowledge on advanced databases by learning about data at logical and view levels by implementing mining technologies and statistics
15	192CS2E08	Ad Hoc & Sensor Networks	✓			Students are able to acquire knowledge on Adhoc networks and their applications and knows how to use different sensors in different scenarios enabling them to work in IoT and Networking sectors
16	192CS2E09	Soft Computing				
17	192CS2E10	Cloud Computing	✓			Students are able to acquire skills related to Cloud computing and distributed computing enabling them to be employed for cloud services sector
18	192CS2E11	Principles of computer security		✓		Students are able to acquire knowledge on principles and methods to secure digital devices and networks
19	192CS2E12	High Performance Computing				
20	192CS2L03	Machine Learning with Python lab	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.
21	192CS2L04	MEAN Stack Technologies Lab	✓			Students are able to get hands-on experience on deploying and testing web applications using MongoDB, Angular and Node JS.
22	192CS2P01	Mini Project with Seminar				

23	192MC1A01/ /192MC2A01	English for Research Paper Writing		✓		Students are able to demonstrate communication writing skills to express fluently in writing form of language which is very much essential for the career growth in research
24	191MC2A02 /192MC2A02	Disaster Management				
25	192MC1A03/ 192MC2A03	Sanskrit for Technical Knowledge				
26	192MC1A04/ 192MC2A04	Value Education				
27	192MC1A05/ 192MC2A05	Constitution of India				
28	192MC1A06 /192MC2A06	Pedagogy Studies				
29	192MC1A07 /192MC2A07	Stress Management by Yoga				
30	192MC1A08 /192MC2A08	Personality Development through Life Enlightenment Skills				
31	192MC1A09 /192MC2A09	Soft Skills		✓		The students are able to demonstrate Business Communication skills to analyze the mistakes in Body language, formal written communication in the organizations.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
32	192CS3P02	Dissertation-I/ Industrial 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.
33	192CS3E13	Deep Learning	✓			Students are able to acquire skills related to Deep learning, to analysis of different Deep learning algorithms and solving process in creative way.
34	192CS3E14	Social Network Analysis		✓		Students are able to acquire technical skills to Analyze a social network through data wrangling and visualizing a network.
35	192ST3O01	Repair & Rehabilitation of Structures	✓			Students are able to acquire skills related to various aspects of studying detroitation of concrete structures and rehabilitation of these using advanced technologies, like preservation of monuments and other detroited structures enabling them to be employed in civil industry.
36	192ST3O02	Green Building Systems		✓		Students are able to demonstrate technical skill of various green principles related to buildings in constructional activities
37	192ST3O03	Basic Concrete Technology	✓			Students are able to acquire cognitive skills related to properties of concrete, design and test the concrete useful in constructional activities enabling them to be employed in constructional sector.
38	192ST3O04	Basic Foundation Engineering		✓		Students are able to acquire skills related to basic concepts of foundations and their importance to various structures/buildings .
39	192PD3O01	Renewable Energy Technologies		✓		Students are able to acquire skills related to solar, wind and bio-mass energy resources and conversion principles and techniques of various renewable resources.

40	192PD3O02	Hybrid Electric Vehicles	✓			Students are able to acquire skills related to various types hybrid vehicles operations and control enabling the students to get employed in EV sector.
41	192PD3O03	Energy Audit and conservation Management			✓	The course focuses on the loss and profit studies and other company maintenance actives, creates the in trust among the students to have own company.
42	192PD3O04	Neural Networks and Fuzzy Logic	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of ANN enabling them to be employed for designing artificial intelligence systems.
43	192PD3O05	Industrial Safety			✓	This course helps to enable the students learn about environmental factors related to human, to enrich the students with anthropometric principles for work space design and to make the students to acquire knowledge on advance effects of air pollution, safety regulations and standards.
44	192PD3O06	Composite Materials		✓		Students are able to acquire skills related to synthesis and characterization of various types of composite materials.
45	192TE3O01	Energy Systems	✓			Students are able to acquire skills related to the importance of energy management in the functional area and carrying out budgeting and risk analysis of projects enabling them to be employed in Energy sector.
46	192TE3O02	Fuels and Combustion	✓			Students are able to acquire skills in analysing various fuels and the effect of combustion of fuels on environment enabling them to be employed in automotive, aerospace sectors.
47	192TE3O03	Green Engineering Technology		✓		Students are able to acquire skills in analyzing the significance of alternative sources of energy, green energy systems.
48	192TE3O04	IC Engines	✓			Students are able to acquire skills related to the engine performance by using turbo charging and super charging and enabling them to be employed in automotive industries.
49	192TE3O05	Automotive Technology	✓			Students are able to acquire skills related to the concepts of

						transmission system, various braking systems and suspension systems enabling them to be employed in automotive sector.
50	192ES3O01	Embedded System Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of embedded systems enabling them to be employed for designing and manufacturing of electronic systems
51	192ES3O02	Digital System Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of digital electronic circuits enabling them to be employed for designing and manufacturing of electronic equipment.
52	192ES3O03	Programming Languages for Embedded Systems	✓			Students are able to acquire skills related to design, and develop programs with C and C++ enabling them to be employed for designing and manufacturing of Embedded systems.
53	192ES3O04	Sensors & Actuators	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of sensors and actuators enabling them to be employed for designing and manufacturing of electrical/ electronic systems
54	192VD3O01	Physical Design Automation	✓			Students are able to acquire knowledge related to partitioning, placement and routing techniques in a physical design, enabling them to be employed for designing and manufacturing and utilisation of ICs.
55	192VD3O02	VLSI Technology	✓			Students are able to acquire skills related to design, and processing technology, enabling them to be employed for designing and manufacturing of VLSI CHIPS.
56	192VD3O03	Nano-electronics	✓			Students are able to acquire knowledge related to different nano electronics building blocks such as carbon nano tubes, quantum dots, nano wires enabling them to be employed in the field of VLSI.
57	192CS3O05	Artificial Intelligence	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of ANN enabling them to be employed for designing artificial intelligence systems

58	192CS3O06	Deep Learning	✓			Students are able to acquire skills related to Deep learning, to analysis of different Deep learning algorithms and solving process in creative way.
59	192PE3O01	Introduction to Petroleum Engineering		✓		Students are able to demonstrate technical skill of characterizing different streams, modelling and analysis of process in Petroleum Industry.
60	192PE3O02	Process Intensification		✓		Students are able to demonstrate technical skill of characterizing different intensifications, modelling and analysis of process in Petroleum Industry.
61	192PE3O03	Fundamentals of Liquefied Natural Gas	✓			Students are able to acquire skills related to various aspects of different crude behaviour enabling them to be employed as process and transport engineers.
62	192PE3O04	Subsea Engineering		✓		Students are able to demonstrate technical skill of characterizing different subsea structures, modelling and analysis of production.
63	192PE3O05	Geology	✓			Students are able to acquire skills related to various aspects of various structures, traps, stratigraphy's enabling them to be employed as petroleum geologists.
64	192PE3O06	HSE in Petroleum Industry			✓	Students are able to apply the knowledge of safety management enabling them to become an entrepreneur in any domain of their choice.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
65	192CS4P03	Dissertation-II	✓			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		**65**	**34**	**17**	**03**	

Program Coordinator

Head of the Department

Head of the Department
Department of CSE
ADITYA ENGINEERING COLLEGE (A)