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				
5	201ES1I01	Engineering Graphics and Design		✓		Students are able to acquire skills related to creating technical drawings by displaying from different angles of projection and adding dimensional information.
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	201BS2T06	Transform Techniques		✓		Students are able to demonstrate problem solving skills by learning Fourier Transforms , Laplace Transforms, Z-Transforms and their applications
11	201BS2T09	Applied Physics				
12	201ES2I03	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.
13	201ES2T10	Basic Electrical Engineering	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of electric circuits or networks enabling them to be employed for designing and manufacturing of electrical circuits.
14	201ES2T14	Network Analysis	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of electric circuits/networks enabling them to be employed for designing and manufacturing of electrical/ electronic equipment.
15	201ES2L08	Electronics Engineering Workshop				
16	201BS2L04	Applied Physics Lab				
17	201ES2L13	Basic Electrical Engineering Lab				
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	191BS3T13	Numerical Methods & Vector Calculus		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals, vector differentiation and vector integration
21	191ES3T12	Random Variables and Stochastic Processes	✓			Students are able to acquire skills related to statistical knowledge enabling them to be employed for designing and manufacturing of to communication equipment
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	191EC3T01	Electronic Devices and Circuits	✓			Students are able to acquire skills related to design, of electronic circuits/networks enabling them to be employed for designing and manufacturing of electronic equipment.
24	191EC3T02	Digital Electronics and Logic Design	✓			Students are able to acquire skills related to design, and synthesize basic of digital ckts enabling them to be employed for designing and manufacturing of electronic equipment.
25	191EC3T03	Signals and Systems	✓			Students are able to acquire skills related to analysis of signals enabling them to be employed for designing and manufacturing of electronic/ communication equipment.
26	191EC3L01	Electronic Devices and Circuits Lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits.
27	191ES3L16	Digital Electronics and Logic Design Lab		✓		Students are able to demonstrate technical skill of design simple digital circuits and test them
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				

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	191ES4T16	Data Structures	✓			Students are able to acquire technical skills related to demonstrate fundamental algorithmic problems that enable them to be employed as software developers
31	191ES4T17	Control Systems	✓			Imparts foundations of control systems, which are helpful in controlling industrial and domestic processes, making the student employable.
32	191EC4T04	Analog Electronic Circuits	✓			Students are able to acquire skills related to analog electronic circuits like amplifiers and oscillators enabling them to be employed for designing and manufacturing of electronic systems
33	191EC4T05	Electromagnetic Waves and Transmission Lines	✓			Students are able to acquire skills related to electromagnetic waves enabling them to be employed for designing and manufacturing of communication systems
34	191EC4T06	Microprocessors & Micro Controllers	✓			Students are able to acquire skills related to design of electronic circuits with micro processors and controllers enabling them to be employed for designing and manufacturing of electronic equipment.
35	191EC4T07	Analog Communications	✓			Students are able to acquire skills related to modulation and demodulation techniques, transmission and reception of signals enabling them to be employed for designing and manufacturing of communication systems
36	191EC4L02	Analog Electronic Circuits – Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of communication circuits.
37	191EC4L03	Microprocessors & Micro Controllers Lab		✓		Students are able to acquire skills related to design and programming of electronic circuits with micro processors and controllers enabling them to be employed for designing and manufacturing of digital electronic equipment.
38	191EC4L04	Analog Communications Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of communication circuits.

39	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.
40	191MC4A06	Biology for Engineers				

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
41	171EC5T09	Linear IC Applications	✓			Students are able to acquire skills related to basic ckt. design in the field of analog ICs enabling them to be employed for designing and manufacturing of electronic equipment.
42	171EC5T10	Digital IC Applications	✓			Students are able to acquire skills related to basic ckt. design in the field of digital ICs enabling them to be employed for designing and manufacturing of digital electronic equipment.
43	171EC5T11	Digital Communications	✓			Students are able to acquire skills related to digital modulation and demodulation techniques, and noise performance, enabling them to be employed for designing and manufacturing of electronic/ communication equipment.
44	171EC5T12	Antennas and Wave Propagation	✓			imparts knowledge related to communication concepts, radiation and reception of radio waves using antennas, which is helpful in being employable in the field of communications
45	171EC5E01	Computer Architecture and Organization	✓			Students are able to acquire skills related to design, and evaluate the performance of computers enabling them to be employed for designing and manufacturing of computer systems
46	171EC5E02	OOPS through JAVA		✓		Students are able to demonstrate programming skill in java programming that helps them to gain problem-solving skills i.e. to solve a problem in a logical as well as creative way in an manner.
47	171EC5E03	Electronic Switching Systems	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of electronic switching circuits enabling them to be employed for designing and manufacturing of electronic equipment related to data and voice communication systems
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	171EC5L04	Linear IC Applications Lab		✓		Students are able to demonstrate technical skill of designing electronic circuits with linear ices in the fields of instrumentation, communications

						etc.
50	171EC5L05	Digital IC Applications Lab		✓		Students are able to demonstrate technical skill of designing electronic circuits with digital ices.
51	171EC5L06	Pulse and Digital Circuits Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of electronic circuits.

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
52	171EC6T13	Micro Processors and MicroControllers	✓			Students are able to acquire skills related to design of electronic circuits with micro processors and controllers enabling them to be employed for designing and manufacturing of electronic equipment.
53	171EC6T14	VLSI Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of VLSI circuits enabling them to be employed for designing and manufacturing of complex electronic equipment in the fields of communications, control and instrumentation etc
54	171EC6T15	Digital Signal Processing	✓			Students are able to acquire skills related to processing of digital signals enabling them to be employed for designing and manufacturing of electronic/ communication equipment.
55	171EC6E04	CPLD and FPGA Architectures	✓			Students are able to acquire skills related to design, program and evaluate the performance of CPLDs, and FPGAs and enable them to be employed for designing and manufacturing of electrical equipment with CPLDs and FPGAs.
56	171EC6E05	Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and Linux programming which enables them to be employed as Hardware core side job opportunities
57	171EC6E06	Computer Networks	✓			Students are able to acquire skills related to design and evaluate the performance of computer networks enabling them to be employed for designing and manufacturing of networking equipment.
58	171EC6E07	Digital Design Through Verilog	✓			Students are able to acquire skills related to design, program and evaluate the performance of CPLDs, and FPGAs and other programmable devices using Verilog enable them to be employed for designing and manufacturing of electrical equipment with programmable devices.
59	171EC6E08	Biomedical Engineering	✓			Students are able to acquire skills related to design, program and evaluate the performance of biomedical instruments like ECG, EMG etc enable them to be employed for designing and manufacturing of electrical equipment in the field of medicine.

60	171EC6E09	Information Theory and Coding	✓			Students are able to acquire skills related to operation and performance of digital communication equipment using error detecting , correcting and source coding techniques enabling them to be employed for designing and manufacturing of digital systems.
61	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.
62	171EC6L07	Micro Processor and Micro Controllers Lab		✓		Students are able to demonstrate programming skill related to microprocessors and controllers, interfacing of peripherals etc
63	171EC6L08	VLSI lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits in the field of VLSI.
64	171EC6L09	Digital Communications Lab		✓		Develops practical skills required for development of basic communication circuits.

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
65	171EC7T16	Microwave Engineering	✓			Students are able to acquire skills related to microwave devices, enabling them to be employed for designing and manufacturing of radio communication equipment.
66	171EC7T17	Digital Image Processing	✓			Students are able to acquire skills related to digital image processing techniques, enabling them to be employed in the field of biomedical image processing , radar systems etc.
67	171EC7T18	Electronic Measurements And Instrumentation	✓			Students are able to acquire skills related to design, analyze and evaluate the performance of instrumentation systems enabling them to be employed for designing and manufacturing of measuring instruments, biomedical instrumentation etc.
68	171EC7T19	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
69	171EC7E10	Digital Signal Processors	✓			Students are able to acquire skills related to design, program and implement digital signal processing systems and evaluate their performance enabling them to be employed for designing and manufacturing of electronic equipment with DSP processors infields like biomedical instrumentation, speech detection systems etc.
70	171EC7E11	Embedded Systems	✓			Students are able to acquire skills related to design, program and implement embedded systems enabling them to be employed for designing and manufacturing of biomedical, communication and radar equipment .
71	171EC7E12	Cellular and Mobile Communications	✓			Students are able to acquire skills related to operation and performance of cellular mobile communication systems enabling them to be employed for designing , manufacturing installing and troubleshooting of mobile communication systems.
72	171EC7E13	Analog IC Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of current mirrors, amplifiers and opamps enabling them to be employed for designing and manufacturing of analog Ics

73	171EC7E14	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.
74	171EC7E15	Radar Systems	✓			Students are able to acquire skills related to operation and performance of radar systems enabling them to be employed for designing and manufacturing of radar systems like tracking radars, scan radars etc.
75	171EC7L10	Microwave Engineering and Optical Communications Lab		✓		Students are able to demonstrate technical skill of characterizing microwave devices, and optical communication devices modelling and analysis of microwave and optical communication circuits.
76	171EC7L11	Digital Signal and Image Processing Lab		✓		Students are able to demonstrate technical skill of application of various algorithms in the fields of communications and image processing fields.
77	171EC7P01	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
78	171EC8E16	Mixed Signal IC Design	✓			Students are able to acquire skills related to design, mixed signal ICs , which consist of both analog and digital signals enabling them to be employed for designing and implementation of mixed signal ices, which input and output analog signals, while processing them digitally
79	171EC8E17	Wireless Sensors and Networks	✓			Students are able to acquire skills related to design, wireless adhoc networks enabling them to be employed for designing and implementation of WSNs
80	171EC8E18	Satellite Communications	✓			Students are able to acquire skills related to design, analyze and evaluate the performance of satellite communication systems
81	171EC8O01	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.
82	171CE8O04	Waste Water Management		✓		Students are able to demonstrate technical skill of characterizing various waste water treatment technologies
83	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.
84	171EC8O02	Disaster Management	✓			Students are able to acquire skills related to interpretation of various disasters in the environment and prepares one to prevent, face and combat them enabling them to be employed as managers in various industries
85	171EE8O07	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
86	171EC8O03	Neural Networks	✓			Gives knowledge related to ANN and applications, which leads to better employability in the field of machine learning.

87	171CE8O03	Alternative Energy Sources		✓		Students are able to demonstrate technical skill of characterizing different Alternative Energy Sources , modelling and analysis of Automobiles..
88	171CE8O02	Database Management Systems	✓			Students are able to acquire skills related to SQL commands, constraints, views, pl/SQL programming enabling them to be employed for backend developer
89	171EC8O04	Web Technologies	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
90	171CE8O06	Green Fuel Technologies		✓		Students are able to demonstrate technical skill of characterizing different energy resources , modelling and analysis of energy sector
91	171EC8P02	Major 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.
TOTAL		**91**	**51**	**29**	**1**	

PROGRAM COORDINATOR

HEAD OF THE DEPARTMENT

Head of the Department
Department of E.C.E.
Aditya Engineering College (A9)