

# 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 modelling physical phenomenon using ordinary differential equations, system of linear equations in various engineering disciplines.
3	191BS1T03	Applied Physics				
4	191ES1T01	Programming for Problem Solving Using C				
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 skills related to control structures, arrays, string formulas enabling them to be employed in software industry.
8	191ES1L02	Basic Engineering Workshop		✓		Engineering Workshop helps the students by improving their skills by knowing the construction of various wooden joints and various fitting joints, by understanding different black smithy work and preparing various sheet metal models.
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	191BS2T08	Transform Techniques		✓		Students are able to demonstrate problem solving skills by learning Fourier Transforms , Laplace Transforms, Z-Transforms and their applications
12	191BS2T09	Engineering Chemistry				
13	191ES2T02	Engineering Graphics and Design		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using partial differential equations and their applications in various engineering disciplines.
14	191ES2T07	Basic Electrical Engineering	✓			Students are able to acquire skills related to basic electrical principles enabling them to be employed to effectively manage hardware industries.
15	191ES2T08	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.
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	191BS2L04	Engineering Chemistry Lab				
18	191ES2L08	Basic Electrical Engineering Lab		✓		Students are able to acquire skills related to electrical to useful work that enables them to get employed in core industries.
19	191ES2L09	Electronics Engineering Workshop		✓		Students are able to demonstrate technical skill of identifying , specifications of various devices, their symbols. They can recognise and make use of various instruments, like CRO, FG etc
20	191PR2P01	Engineering Exploration Project				

## III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
21	171EC3T01	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.
22	171EC3T02	Switching Theory 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.
23	171EC3T03	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.
24	171ES3T15	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.
25	171EC3T04	Random Variables and Stochastic Processes				
26	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.
27	171EC3L01	Electronic Devices and Circuits Lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits
28	171ES3L08	Networks and Electrical Technology Lab		✓		Students are able to acquire skills related to machines particularly in traction, electrical vehicles, etc. or as generators enabling them to be employed for controlling, designing and manufacturing in power station, wind turbines, etc
29	171HS3A09	Professional Ethics and Human Values		✓		Students are able to acquire skills which help them in becoming a professional with ethical and human values,
30	171HS3A10	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.



## IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
31	171EC4T05	Electronic Circuit Analysis	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of electronic circuits/networks enabling them to be employed for designing and manufacturing of electronic equipment.
32	171EC4T06	Electromagnetic Waves and Transmission Lines	✓			Students are able to acquire skills related to propagation of electromagnetic waves enabling them to be employed for designing and manufacturing of communication systems
33	171EC4T07	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
34	171EC4T08	Pulse and Digital Circuits	✓			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 electronic equipment.
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	171ES4T28	Linear Control Systems		✓		Students are able to acquire knowledge on open loop and closed loop control systems, mathematical modelling of systems and various responses using Bode plot, Nyquist plot and Polar plots, and state variable analysis suitable for industrial automation applications
37	171HS4T08	IPR and Patents				
38	171EC4L02	Electronic Circuit Analysis Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of electronic circuits.
39	171EC4L03	Analog Communications Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of communication circuits.
40	171HS4A11	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.

## 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

65	R1641041	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.
66	R1641042	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	R1641043	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.
68	R1641044	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	R164104A	TV Engineering	✓			Students are able to acquire knowledge related to television signals, bandwidth requirement and TV circuits enabling them to be employed for designing, manufacturing and implementation of TV systems
70	R164104B	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.
71	R164104C	System Design through Verilog	✓			Students are able to acquire skills related to Verilog programming skills, enabling them to be employed for designing, manufacturing and implementation of digital systems.
72	R164104D	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
73	R164104E	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
74	R164104F	Network Security & Cryptography	✓			Students are able to acquire skills related to design, develop and evaluate the performance of secure and cryptographic codes enabling

						them to be employed for designing and interfacing devices with security
75	R1641047	Micro Wave Engineering & Optical communications Lab		✓		Students are able to acquire skills related to characteristics and applications of microwave devices enabling them to be employed for designing and manufacturing of electronic/ communication equipment.
76	R1641048	Digital Signal Processing Lab				Students are able to acquire skills related to design, synthesize and evaluate the performance of digital signal processing systems enabling them to be employed for designing and manufacturing of electronic equipment.


## VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
77	R1642041	Cellular Mobile Communications	✓			Students are able to acquire skills related to cellular concepts enabling them to be employed for designing and manufacturing of mobile communication equipment.
78	R1642042	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.
79	R1642043	Satellite Communications	✓			Students are able to acquire skills related to design, analyze and evaluate the performance of satellite communication systems which serve broadcasting, telephony etc.
80	R164204A	Wireless sensors & Networks	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of wireless adhoc networks enabling them to be employed for designing and implementation of WSNs.
81	R164204B	Digital IC Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of digital ICs enabling them to be employed for designing and manufacturing of digital ICs.
82	R164204C	Operating Systems	✓			Students are able to acquire skills related to concepts of operating systems enabling them to be employed in the field of software development.
83		Seminar	✓			Students will be able to demonstrate problem identification, analysis, design solutions or applications in petroleum engineering domain through the acquired technical, cognitive, communication and creative skills to address societal needs.
84		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	84	49	23	1		

  
PROGRAM COORDINATOR

  
HEAD OF THE DEPARTMENT

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