

## 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.
7	171HS1L01	English Communication Skills Lab – I		✓		Skill Development: 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.
8	171BS1L04	Applied Physics Lab				
9	171ES1L01	Computer Programming Lab	✓			Employability: 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 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 are able to demonstrate problem solving skills by evaluating improper and vector integrals applicable in various engineering disciplines.
12	171HS2T02	Environmental Studies				
13	171BS2T05	Applied Chemistry				
14	171ES2T06	Electrical and Mechanical Technology	✓			Students are able to acquire skills related to basic electrical and electronic principles enabling them to be employed in electronics engineering.
15	171CS2T01	Data Structures through C				
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	R1621041	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.
20	R1621042	Switching Theory and Logic Design	✓			Students are able to acquire skills related to design, and synthesize basic of digital cuts enabling them to be employed for designing and manufacturing of electronic equipment.
21	R1621043	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.
22	R1621044	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.
23	R1621045	Random Variables and Stochastic Process				
24	R1621026	Managerial Economics & 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.
25	R1621046	Electronic Devices and Circuits Lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits.
26	R1621047	Networks & Electrical Technology Lab		✓		Students are able to demonstrate technical skill of characterizing electrical machines and modelling and analysis of electronic networks



## IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
27	R1622041	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.
28	R1622042	Control Systems	✓			imparts foundations of control systems, which are helpful in controlling industrial and domestic processes, making the student employable.
29	R1622043	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.
30	R1622044	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.
31	R1622045	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.
32	R1622026	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.
33	R1622046	Electronic Circuit Analysis Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of electronic circuits.
34	R1622047	Analog Communications Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of communication circuits.

## V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
35	RT31041	Pulse & Digital Circuits	✓			Students are able to demonstrate technical skill of modelling and analysis of pulse and digital circuits.
36	RT31042	Linear IC Applications	✓			Students are able to demonstrate technical solving skills by providing knowledge on ICs with growing penetration of smart electronics in strategic areas including Space, Defence and Nuclear energy.
37	RT31043	Control Systems	✓			imparts foundations of control systems, which are helpful in controlling industrial and domestic processes, making the student employable.
38	RT31044	Digital System Design & Digital IC Applications	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of electronic circuits using digital ICs enabling them to be employed for designing and manufacturing of electronic equipment.
39	RT31045	Antennas and Wave Propagation	✓			imports knowledge related to communication concepts, radiation and reception of radio waves using antennas, which is helpful in being employable in the field of communications
40	RT31047	Pulse & Digital Circuits Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of electronic circuits.
41	RT31048	LIC Applications Lab		✓		Students are able to demonstrate technical skill of designing electronic circuits with linear ices in the fields of instrumentation, communications etc.
42	RT31049	Digital System Design & DICA Lab		✓		Students are able to demonstrate technical skill of designing electronic circuits with digital ICs.
43	RT31016	IPR& Patents				

## VISEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
44	1RT32041	Microprocessors and Microcontrollers	✓			Students are able to acquire skills related to the design of electronic circuits with micro processors and controllers enabling them to be employed for designing and manufacturing electronic equipment.
45	1RT32042	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.
46	1RT32043	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.
47	1RT32044	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.
48	RT32045A	Open Elective--Bio Medical Engineering				
49	RT32046	Microprocessors and MicrocontrollersLab		✓		This lab is helpful in developing design skills related to various microprocessor and microcontroller based cuts/programs.
50	RT32047	Digital Communications Lab		✓		Develops practical skills required for development of basic communication circuits.
51	RT32048	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.
52	RT32049	Seminar	✓			students will be able to demonstrate problem identification, analysis, design solutions or applications in communication engineering domain through the acquired technical, cognitive, communication and creative skills to address societal needs.



## VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
53	RT41041	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	RT41042	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.
55	RT41043	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 field
56	RT41044	Computer Architecture & 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
57	RT41045	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.
58	RT41046	Analog IC Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of current mirrors, amplifiers and pumps enabling them to be employed for designing and manufacturing of analog ICs.
59	RT41047	Object Oriented Programming & O S	✓			Students are able to acquire skills related to design, programs using OOPs concepts enabling them to be employed for designing and development of efficient software.
60	RT41048	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.
61	RT41049	Advanced Computer Architecture	✓			Students are able to acquire skills related to design, and synthesize advanced computers enabling them to be employed for designing and manufacturing of computer architectures.
62	RT4104A	Optical Communication	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of optical communication systems enabling them to be employed

						for designing, manufacturing and implementation of optical communication systems.
63	RT4104B	Digital IC Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of digital ices enabling them to be employed for designing and manufacturing of digital Ics.
64	RT4104C	Speech Processing	✓			Students are able to acquire skills related to speech characteristics and speech processing algorithms enabling them to be employed for designing and manufacturing of speech processing systems.
65	RT4104D	Artificial Neural Network & 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.
66	RT4104E	Network Security & Cryptography	✓			Students are able to acquire skills related to design, developed and evaluate the performance of secure and cryptographic codes enabling them to be employed for designing and interfacing devices with security.
67	RT4104L	V L S I Lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits in the field of VLSI.
68	RT4104M	Microwave Engineering Lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits in the field of VLSI.



## VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
69	RT42041	Cellular Mobile Communication	✓			Students are able to acquire skills related to cellular concepts enabling them to be employed for designing and manufacturing of mobile communication equipment.
70	RT42042	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.
71	RT42043A	Satellite Communication	✓			Students are able to acquire skills related to design, analyze and evaluate the performance of satellite communication systems .
72	RT42043B	Mixed signal Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of mixed signal circuits enabling them to be employed for designing and manufacturing of mixed signal ICs
73	RT42043C	Embedded systems	✓			Students are able to demonstrate technical skills of Simulators, emulators, Debuggers, Embedded Product Development life cycle and Real Time Operating System
74	RT42043D	RF Circuit Design	✓			Students are able to acquire skills related to design, and evaluate the performance of RF circuits enabling them to be employed for designing and manufacturing of communication equipment.
75	RT42043E	Cloud Computing	✓			Students are able to acquire skills related to Cloud computing and distributed computing enabling them to be employed for cloud services sector.
76	RT42044A	Wireless Sensors and Networks	✓			Students are able to acquire skills related to design, wireless ad hoc networks enabling them to be employed for designing and implementation of WSNs.
77	RT42044B	System on Chip	✓			Students are able to acquire skills related to integration of systems on single chips enabling them to be employed for designing and manufacturing of system on chips.

78	RT42044C	Low Power IC Design	✓			Students are able to acquire skills related to low power IC design, synthesize and evaluate the performance of VLSI circuits enabling them to be employed for designing and manufacturing of low power VLSI circuits and systems.
79	RT42044D	4.Bio-Medical Instrumentation	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of biomedical instrumentation circuits enabling them to be employed for designing and manufacturing of electronic equipment like ECG,EMC etc
80	RT42044E	5.EMI/EMC	✓			Students are able to acquire skills related to electromagnetic interference and compatibility enabling them to be employed for designing and manufacturing of electronic equipment, free from interference.
81	RT42045	Project & Seminar	✓			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		81	52	18	2	



PROGRAM COORDINATOR



HEAD OF THE DEPARTMENT

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