

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	201BS1T03	Applied Physics				
4	201ES1T02	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	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 communication skills to express fluently in both written as well as oral form of language which is very much essential for the career growth.
7	201BS1L02	Applied Physics 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	201BS2T05	Partial Differential Equations and Vector Calculus		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using partial differential equations, vector differentiation, vector integration and their applications in various engineering disciplines.
11	201BS2T06	Transform Techniques		✓		Students are able to demonstrate problem solving skills by learning Fourier Transforms , Laplace Transforms, Z-Transforms and their applications
12	201ES2T07	Data Structures through C	✓			Students are able to acquire technical skills related to demonstrate fundamental algorithmic problems that enable them to be employed as software developers
13	201ES2T09	Basic Electrical Circuits	✓			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	201ES2T13	Basic Civil and Mechanical Engineering				
15	201ES2L06	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.
16	201ES2L09	Electrical Engineering Workshop		✓		Students are able to demonstrate engineering skills by acquiring basic knowledge on the working of various semi-conductor devices
17	201ES2L11	Basic Civil and Mechanical Engineering Lab				
18	201MC2L01	Professional Communications 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	191BS3T12	Transform Techniques		✓		Students are able to demonstrate problem solving skills by learning Fourier Transforms , Laplace Transforms, Z-Transforms and their applications
21	191EE3T02	Analog Electronic Circuits				
22	191ES3T11	Python programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
23	191EE3T03	Electrical Circuit Analysis-II	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of advanced electric circuits or networks enabling them to be employed for designing and manufacturing of advanced electrical circuits.
24	191EE3T04	Electrical Machines-I	✓			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
25	191EE3T05	Electromagnetic Fields	✓			Students are able to acquire skills related to signal processing and digital communications which enables them to be employed in EMF application industries
26	191EE3L01	Electrical Circuits Lab	✓			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.
27	191ES3L15	Python programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
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		✓		This subject demonstrates technical skills as they were able to understand concept of Traditional knowledge and its importance, enactments related

A.Y. 2020-21

B. Tech (Electrical and Electronics Engineering)

						to the protection of traditional knowledge and traditional knowledge in Agriculture and Medicine.
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IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	191BS4T17	Numerical methods & Complex Variables		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals, analytical properties of functions of complex variables, complex integration.
31	191EE4T06	Digital Circuits & Logic Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of digital circuits or networks enabling them to be employed for designing and manufacturing of electrical digital circuits.
32	191EE4T07	Electrical Machines-II	✓			Students are able to acquire skills related to advanced 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
33	191EE4T08	Control Systems	✓			imparts foundations of control systems, which are helpful in controlling industrial and domestic processes, making the student employable
34	191EE4T09	Power Systems-I	✓			Students are able to acquire skills related to how a well-designed power system ensures robust performance and maximizes plant availability under all operating conditions, including transient conditions like motor starting, non-linear loads and generator loss that enables them to get employed in electrical power industries.
35	191ES4T15	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
36	191EE4L02	Electrical Machines –I 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
37	191EE4L03	Analog Electronic Circuits Lab	✓			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
38	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.
39	191MC4A06	Biology for Engineers		✓		Students are able to demonstrate skills related to biology in a general way by providing a framework for understanding life at the cellular and molecular structures

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
40	171EE5T10	Power Systems – II	✓			Students are able to acquire skills related to how a well-designed power system ensures robust performance and maximizes plant availability under all operating conditions enabling them to be employed for assessing transient conditions like motor starting, non-linear loads and generator loss.
41	171EE5T11	Power Electronics	✓			Students are able to acquire skills related to the various drives that are used in power electronic based devices which enables them to get employed in semiconductor-based industries such as in communications, computing, health care, military systems, transportation, clean energy, etc.
42	171EE5T12	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.
43	171EE5T13	Signals and Systems				
44	171EE5E01	Renewable Energy Sources	✓			Students are able to acquire skills related to various types of pivotal role in the development of a sustainable energy supply enabling the students to get employed in renewable energy generation sector.
45	171EE5E02	Modeling and Analysis of Electrical Machines	✓			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
46	171EE5E03	Electrical Safety		✓		Students are able to demonstrate safety skills by providing knowledge on hazards with growing penetration of electrical devices in strategic areas including Space, mining and Nuclear energy.
47	171HS5T08	Intellectual Property Rights and Patents		✓		It helps the graduates safe guard the IP and innovations at their place of work.
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	171EE5L04	Electrical Measurements Lab	✓			Students are able to acquire skills related to various types of electrical parameters that enable them to get employed in core (electrical) industry/company related to measurements of electrical parameters.
50	171EE5L05	Electrical Machines - II 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
51	171EE5L06	Control Systems Lab	✓			Students are able to acquire skills related to strategic methods to improving productivity and enhancing the best practices of the company that enables them to get employed in industries related to controlling of operations.
52	171EE5S01	MOOCs - I	✓			Skill Development: Students are able to demonstrate technical skill of various online courses available adding to their curricular courses

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
53	171EE6T14	Power Electronic Controllers and Drives	✓			Students are able to acquire skills related to the various drives that are used in power electronic based devices which enables them to get employed in semiconductor based industries such as in communications, computing, health care, military systems, transportation, clean energy, etc.
54	171EE6T15	Power System Analysis	✓			Students are able to acquire skills related to how a well-designed power system ensures robust performance and maximizes plant availability under all operating conditions, including transient conditions like motor starting, non-linear loads and generator loss that enables them to get employed in electrical power industries.
55	171EE6T16	Micro Processor and Micro Controllers		✓		Students are able to demonstrate technical solving skills by providing knowledge on microprocessors with growing penetration of smart electronics in strategic areas including Space, Defence and Nuclear energy.
56	171EE6T17	Data Structures		✓		Students are able to acquire programming skills related to Basic Data structure like stacks, queues, linked lists, trees and tries which enable them to get expertise as a product developer.
57	171EE6E04	Computer Architecture		✓		Students are able to demonstrate technical skills in handling the hardware issues of computer during a failure.
58	171EE6E05	Electrical Distribution Systems	✓			Students are able to acquire skills related to mitigating some of the potential distribution of electrical power challenges imposed by the growth in non-dispatchable renewable generation on electric grids that enables them to get employed in power distribution company.
59	171EE6E06	Distributed Generation and Microgrid	✓			Students are able to acquire skills related to mitigating some of the potential distribution of electrical power challenges imposed by the growth in non-dispatchable renewable generation on electric grids that enables them to get employed in power distribution company.
60	171EE6E07	Advanced Control Systems		✓		This subject ensures that the students develop strategic advanced control methods to improving productivity and enhancing the best practices of the company.

61	171EE6E08	PLC and Applications		✓		Students are able to demonstrate technical solving skills by providing knowledge on PLCs with growing penetration of smart electronics in strategic areas including Space, Defence and Nuclear energy.
62	171EE6E09	Instrumentation	✓			Students are able to acquire skills related to various types of electrical instruments that enable them to get employed in core (electrical) industry/company related to instrumentation of electrical parameters.
63	171EE6E10	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.
64	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.
65	171EE6L07	Data Structures Lab		✓		Students are able to acquire programming skills related to Basic Data structure like stacks, queues, linked lists, trees and tries which enable them to get expertise as a product developer.
66	171EE6L08	Power Electronics Lab	✓			Students are able to acquire skills related to the various methods that are used in power electronic based devices which enables them to get employed in semiconductor based industries such as in communications, computing, health care, military systems, transportation, clean energy, etc.
67	171EE6S02	MOOCs - II	✓			Students are able to demonstrate technical skill of various online courses available adding to their curricular courses

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
68	171EE7T18	Utilization of Electrical Energy	✓			Students are able to acquire skills related to high-quality power efficiency that enables them to be employed in industries focusing on optimum utilization of electricity.
69	171EE7T19	Linear and Digital 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.
70	171EE7T20	Power System Operation and Control	✓			Students are able to acquire skills related to a well-designed power system that ensures robust performance and maximizes plant availability under all operating conditions, including transient conditions like motor starting, non-linear loads and generator loss enabling them to get employed in electrical power sectors.
71	171EE7T21	Switch Gear and Protection	✓			Students are able to acquire skills related to mitigating some of the potential protection challenges imposed by the growth in non-dispatchable renewable generation on electric grids is an important consideration enabling them to be employed in protection of power system industry.
72	171EE7E11	Optimization Techniques		✓		Students are able to demonstrate technical skill of optimization that helps to gain problem-solving skills optimally i.e. to solve a problem in a logical as well as creative way in an optimized manner.
73	171EE7E12	Digital Signal Processing				
74	171EE7E13	Special Electrical Machines	✓			Students are able to acquire skills related to special 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
75	171EE7E14	High Voltage Engineering	✓			Students are able to acquire skills related to mitigating some of the potential transmission of high voltage electrical power challenges that enables them to get employed in power transmission company.
76	171EE7E15	Electric Power Quality				

77	171EE7E16	EHVAC Transmission	✓			Students are able to acquire skills related to mitigating some of the potential transmission of high voltage electrical power challenges that enables them to get employed in power transmission company.
78	171EE7L09	Power Systems Simulation Lab	✓			Students are able to acquire skills related to how a well-designed power system ensures robust performance and maximizes plant availability under all operating conditions enabling them to be employed for assessing transient conditions like motor starting, non-linear loads and generator loss.
79	171EE7L10	Micro Processor and Micro Controllers Lab	✓	✓		Employability: Students are able to acquire skills related to basic machine level and assembly level programming of processors and controllers enabling them to be employed for designing and manufacturing of digital electronic equipment. Skill Development: Students are able to demonstrate programming skill related to microprocessors and controllers, interfacing of peripherals etc
80	171EE7P01	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
81	171EE8E17	HVDC Transmission	✓			Students are able to acquire skills related to mitigating some of the potential transmission of high voltage electrical power challenges that enables them to get employed in power transmission company.
82	171EE8E18	Flexible AC Transmission Systems	✓			Students are able to acquire skills related to mitigating some of the potential transmission of electrical power challenges that enables them to get employed in power transmission company.
83	171EE8E19	Power System Reforms	✓			Students are able to acquire skills related to analyze of reforms that is required to achieve government's vision of energy access, efficiency, sustainability and security that enables them to get employed in energy sectors.
84	171EE8E20	Digital Control Systems		✓		This subject ensures that the students develop strategic methods to improving productivity and enhancing the best practices of the company.
85	171EE8O01	Energy Audit, Conservation and Management			✓	the course focuses on the loss and profit studies and other company maintenance actives, creates the intrust among the students to have own company.
86	171EE8O02	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.
87	171EE8O03	Unix and Shell Programming				
88	171EE8O04	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
89	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.

90	171EE8O06	Vehicular Electric Power Systems	✓			Students are able to acquire skills related to various types of hybrid vehicles operations and control enabling the students to get employed in EV sector.
91	171EE8O07	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
92	171EE8O08	Cyber Security	✓			Students are able to acquire technical skills related to Cyber security and enabling them to be employed for cyber security sector.
93	171EE8P02	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		93	56	26	2	

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Program Coordinator



Head of the Department

 Head of The Department
 Dept. Of Electrical & Electronics Engineering,
 Aditva Engineering College (A9)