

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	191BS1T04	Engineering Chemistry				
4	191ES1T01	Programming for Problem Solving Using C	✓			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.
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	191BS1L02	Engineering Chemistry 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	191BS2T05	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.
12	191BS2T07	Applied Physics		✓		
13	191ES2T05	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
14	191EE2T01	Electrical Circuits Analysis -I	✓			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.
15	191ES2T06	Basic Civil and Mechanical Engineering				
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	191BS2L05	Applied Physics Lab		✓		
18	191ES2L05	Basic Civil and Mechanical Engineering Lab		✓		Students are able to acquire skills related to civil and mechanical to useful work that enables them to get employed in core industries.
19	191ES2L06	Electrical Engineering Workshop		✓		Students are able to acquire skills related to electrical wiring to useful work that enables them to get employed in core industries.
20	191PR2P01	Engineering Exploration 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.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
21	171EE3T02	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.
22	171EE3T03	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
23	171EE3T04	Basic Electronics Devices and Circuits				
24	171EE3T05	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.
25	171ES3T10	Thermal and Hydro Prime Movers		✓		Students are able to acquire skills related to prime mover as an engine that converts fuel to useful work that enables them to get employed in locomotives industries.
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	171ES3L04	Thermal and Hydro Prime Movers Lab		✓		Students are able to acquire skills related to prime mover as an engine that converts fuel to useful work that enables them to get employed in locomotives industries.
28	171EE3L01	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.
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

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						students to feel comfortable to face several competitive examinations with confidence and competence.
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IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
31	171EE4T06	Electrical Measurements	✓			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.
32	171EE4T07	Electrical Machines - II	✓			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
33	171ES4T24	Digital Circuits and Logic Design	✓			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.
34	171EE4T08	Control Systems	✓			Imparts foundations of control systems, which are helpful in controlling industrial and domestic processes, making the student employable.
35	171EE4T09	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 enabling them to be employed for assessing transient conditions like motor starting, non-linear loads and generator loss.
36	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.
37	171EE4L02	Electronic Devices and Circuits Lab	✓			Students are able to acquire knowledge related to characteristics of electronic devices and skills related to basic ckt. design enabling them to be employed for designing and manufacturing of electronic equipment. Skill Development: Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits.
38	171EE4L03	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
39	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
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	✓			Students are able to acquire skills related to analysis of signals enabling them to be employed for designing and manufacturing of electronic/communication equipment.
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				
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	R1641021	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	R1641022	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.
70	R1641023	Power System Operation & Control	✓			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.
71	R1641024	Switchgear 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	R164102A	Electrical Machine Modeling and Analysis	✓			Students are able to acquire skills related to fundamental knowledge on various analytical tools for electrical engineering simulation and enabling them to be employed in areas of computer aided design of electrical components.
73	R164102B	Advanced Control Systems	✓			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.
74	R164102C	Programmable Logic Controllers 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.
75	R164102D	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.

76	R164102E	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.
77	R164102F	Electric Power Quality				
78	R164102G	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
79	R1641027	Electrical Simulation Laboratory	✓			Students are able to acquire skills related to fundamental knowledge on various analytical tools for electrical engineering simulation and enabling them to be employed in areas of computer aided design of electrical components.
80	R1641028	Power Systems and Simulation Laboratory	✓			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.

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81	R1642021	Digital Control Systems		✓		This subject ensures that the students develop strategic methods to improving productivity and enhancing the best practices of the company.
82	R1642022	HVDC Transmission	✓			Students are able to acquire skills related to mitigating some of the potential transmission of electrical power challenges imposed by the growth in non-dispatchable renewable generation on electric grids consideration that enables them to get employed in power transmission company.
83	R1642023	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.
84	R164202A	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.
85	R164202B	Flexible Alternating Current 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.
86	R164202C	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.
87	R1642025	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.
88	R1642026	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.

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Total	88	51	27	2	.
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Program Coordinator



Head of the Department

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