

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	171HS1T02	Environmental Studies				
4	171BS1T05	Applied Chemistry				
5	171ES1T02	Engineering Mechanics		✓		Students are able to acquire skills related to principles of friction, kinetics, kinematics, resolving forces, trusses etc which forms the crux of design sciences.
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		✓		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	171BS1L03	Applied Chemistry Lab				
9	171ES1L01	Computer Programming Lab	✓			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	171BS2T02	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.
12	171BS2T06	Mathematics - III		✓		Students are able to demonstrate problem solving skills by evaluating improper and vector integrals applicable in various engineering disciplines.
13	171BS2T04	Applied Physics				
14	171ES2T03	Engineering Drawing		✓		Students are able to acquire skills related to creating technical drawings by displaying from different angles of projection and adding dimensional information.
15	171EE2T01	Electrical Circuit 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.
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	171BS2L04	Applied Physics Lab				
18	171ES2L02	Engineering Workshop and 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	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.
20	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
21	171EE3T04	Basic Electronics Devices and Circuits				
22	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.
23	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.
24	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.
25	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.
26	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.
27	171HS3A09	Professional Ethics and Human Values		✓		Students are able to acquire skills which help them in becoming a professional with ethical and human values.
28	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

A.Y. 2018-2019

B. Tech (Electrical and Electronics Engineering)

						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
29	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.
30	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
31	171ES4T24	Digital Circuits and Logic Design				
32	171EE4T08	Control Systems	✓			Imparts foundations of control systems, which are helpful in controlling industrial and domestic processes, making the student employable.
33	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.
34	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.
35	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.
36	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

37	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.
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V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
38	R1631021	Power Systems-II	✓			Students are able to acquire skills related to how an advanced 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.
39	R1631022	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.
40	R1631023	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.
41	R1631024	Pulse & 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.
42	R1631025	Power Electronics	✓			Students are able to acquire skills related to the various power electronic devices which enables them to get employed in semiconductor based industries such as in communications, computing, health care, military systems, transportation, clean energy, etc.
43	R1631026	Electrical Machines-II Laboratory	✓			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
44	R1631027	Control Systems Laboratory	✓			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.
45	R1631028	Electrical Measurements Laboratory	✓			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.

46	R1631029	IPR & Patents			✓	It helps the graduates safe guard the IP and innovations at their place of work.
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VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
47	R1632021	Power Electronic Controllers & Drives	✓			Students are able to acquire skills related to the various power electronic devices which enables them to get employed in semiconductor based industries such as in communications, computing, health care, military systems, transportation, clean energy, etc.
48	R1632022	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 enabling them to be employed for assessing transient conditions like motor starting, non-linear loads and generator loss.
49	R1632023	Micro Processors 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.
50	R1632024	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.
51	R163202A	Unix and Shell Programming		✓		Students are able to demonstrate programming skill for coding and building applications which is required for software industries.
52	R163204A	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.
53	R163202B	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	R163202D	Robotics				
55	R163202E	Neural Networks & Fuzzy Logic				

56	R163202F	Energy Audit and Conservation& Management			✓	the course focuses on the loss and profit studies and other company maintenance activities, creates the interest among the students to have own company.
57	R1632026	Power Electronics Laboratory	✓			Students are able to acquire skills related to the various power electronic devices which enables them to get employed in semiconductor based industries such as in communications, computing, health care, military systems, transportation, clean energy, etc.
58	R1632027	Micro Processors and Micro controllers Laboratory		✓		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.
59	R1632028	Data Structures Laboratory		✓		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.
60	R1632029	Professional Ethics & Human Values		✓		This subject help the students to demonstrate their skills as they inculcate human values to grow as responsible human beings with proper personality and helps them to maintain ethical conduct and discharge their professional duties.

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
61	RT41021	Renewable Energy Sources and Systems	✓			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.
62	RT41022	HVAC and DC 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.
63	RT41023	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.
63	RT41024	Energy Audit and Conservation & Management			✓	the course focuses on the loss and profit studies and other company maintenance activities, creates the trust among the students to have own company.
65	RT41025	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.
66	RT41026	Non-Conventional Sources of Energy	✓			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.
67	RT41027	Optimization Techniques		✓		Students are able to acquire skills related to problem solving techniques of Optimization Techniques to achieve the "best" design relative to a set of prioritized criteria or constraints.
68	RT41028	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.


69	RT41029	Electrical Distributions 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.
70	RT41030	Optimization Techniques		✓		Students are able to acquire analytical skills in finding optimal solutions of different models using various decision making techniques.
71	RT4102L	Microprocessors and Microcontrollers Lab		✓		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.
72	RT4102M	Electrical Simulation Lab	✓			Students are able to acquire skills related to various types of simulation of electrical components that enable them to get employed in core (electrical) industry/company related to designing of electrical components.
73	RT4102N	Power Systems 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.

VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
74	RT42021	Digital Control Systems	✓			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.
75	RT42022A	Advanced Control Systems		✓		The students are able to acquire technical skills in strategic advanced control methods to improving productivity and enhancing the best practices of the company.
76	RT42022B	Extra High Voltage 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.
77	RT42022C	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
78	RT42023A	Electric Power Quality	✓			Students are able to acquire skills related to high-quality power efficiency that enables them to be employed in industries focusing in saving money on electricity bill and carbon footprint.
79	RT42023B	Digital Signal Processing		✓		Students are able to acquire skills related to mathematics of signal processing that aids them in getting jobs in industries that use X-rays, MRIs and CT scans, allowing medical images to be analyzed and deciphered by complex data processing techniques.
80	RT42023C	FACTS: Flexible Alternating Current Transmission System	✓			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.
81	RT42024A	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.

82	RT42024B	UNIX and Shell Programming		✓		Students are able to demonstrate programming skill for coding and building applications which is required for software industries.
83	RT42024C	AI Techniques		✓		Students are able to demonstrate coding skills related to various AI methods that helps to gain automatic problem-solving skills i.e. to solve a problem in an automatic manner without human intervention manner.
84	RT42024D	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.
85	RT42024E	Systems Engineering		✓		Students are able to demonstrate technical skills responsible for the functioning and working of a system as he is the one who takes care of all the phases of system engineering.
86	RT42025	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		86	43	29	5	


Program Coordinator


Head of the Department
Head of The Department
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