PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	192VD1T01	CMOS Analog IC Design	✓			Students are able to acquire knowledge related to different analog IC Design techniques enabling them to be employed in the field of VLSI
2	192VD1T02	CMOS Digital IC Design	✓			Students are able to acquire knowledge related to different digital IC Design techniques enabling them to be employed in the field of VLSI
3	192HS1T01	Research methodology and IPR				
4	192VD1E01	VLSI Technology	✓			Students are able to acquire knowledge related to fabrication process of VLSI enabling them to be employed for fabrication and testing of Ics
5	192VD1E02	Nano materials and Nanotechnology	✓			Students are able to acquire knowledge related to fabrication process and applications of nano materials enabling them to be employed in the field of nanotechnology
6	192VD1E03	MEMS Technology	✓			Students are able to acquire knowledge related to fabrication process and applications of MEMS enabling them to be employed in the field of VLSI and ES
7	192VD1E04	Device Modelling	✓			Students are able to acquire knowledge related to fabrication process and modelling of devices to be fabricated enabling them to be employed in the field of VLSI
8	192VD1E05	Nano-Electronics	✓			Students are able to acquire knowledge related to different nanoelectronics building blocks such as carbon nanotubes, quantum dots, nano wires enabling them to be employed in the field of VLSI
9	192VD1E06	Photonics				
10	192VD1L01	CMOS Analog IC Design Lab		✓		Students are able to acquire knowledge related to different analog IC Design techniques enabling them to be employed in the field of VLSI
11	192VD1L02	CMOS Digital IC Design Lab		✓		Students are able to acquire knowledge related to different digital IC Design techniques enabling them to be employed in the field of VLSI

12	192MC1A01/19 2MC2A01	English for Research Paper Writing		✓			Students are able to demonstrate communication writing skills to express fluently in writing form of language which is very much essential for the career growth in research
13	192MC1A02/19 2MC2A02	Disaster Management					
14	192MC1A03/19 2MC2A03	Sanskrit for Technical Knowledge					
15	192MC1A04/19 2MC2A04	Value Education					
16	192MC1A05/19 2MC2A05	Constitution of India					
17	192MC1A06/19 2MC2A06	Pedagogy Studies					
18	192MC1A07/19 2MC2A07	Stress Management by Yoga					
19	192MC1A08/19 2MC2A08	Personality Development through Life Enlightenment Skills					
20	192MC1A09/19 2MC2A09	Soft Skills		✓			The students are able to demonstrate Business Communication skills to analyze the mistakes in Body language ,formal written communication in the organizations.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
21	192VD2T03	Mixed Signal & RF IC Design	✓			Students are able to acquire knowledge related to different mixed signal and RF IC design techniques enabling them to be employed in industries fabricating rf communication equipment.
22	192VD2T04	Physical Design Automation	✓			Students are able to acquire knowledge related to partitioning, placement and routing techniques in a physical design , enabling them to be employed for designing and manufacturing and utilisation of ICs.
23	192VD2E07	Design For Testability	✓			Students are able to acquire skills related to design, implement and evaluate the performance of test circuits built within the chip enabling them to be employed for designing and testing of complex systems
24	192VD2E08	IoT & Its Applications	✓			Students will be able to acquire technical skills to develop real time IOT devices which can be used in the field of medicine, agriculture, Vigilance, safety and security services which enable them to be employed as IOT developer.
25	192VD2E09	VLSI Signal Processing	✓			Students are able to acquire skills related to design and development of visa signal processing, enabling them to be employed for designing and manufacturing of ICs
26	192VD2E10	Microcontrollers & programmable Digital Signal Processors	✓			Students will be able to acquire technical skills to program and interface microcontrollers and DSP processors which enable them to be employed as ES developer.
27	192EM2E11	Network Security & Cryptography				
28	192VD2E11	Low Power VLSI Design	✓			Students are able to acquire skills related to design and development of ices that consume less power, increasing the operating time of battery operated systems, enabling them to be employed for

						designing and manufacturing of Ics
29	192VD2L03	Mixed Signal IC Design Lab		✓		Students are able to acquire technical skills related to simulate mixed signal circuits , enabling them to be employed for designing and manufacturing and utilisation of ICs.
30	192VD2L04	Physical Design Automation Lab		✓		Students are able to acquire technical skills related to partitioning, placement and routing techniques in a physical design , enabling them to be employed for designing and manufacturing and utilisation of ICs.
31	192VD2P01	Mini Project with 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.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
32	192VD3E12	Scripting Languages for VLSI	✓			Students are able to acquire skills related to Create and run scripts using PERL/ TCL/ PYTHON in CAD Tools, enabling them to be employed for designing and modelling of systems
33	192VD3E13	Digital System Design & Verification	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of digital electronic circuits enabling them to be employed for designing and manufacturing of electronic equipment.
34	192EM3E14	Hardware Software co-design	✓			Students are able to acquire skills related to design and development of hardware and software components of an embedded system enabling them to be employed for designing and manufacturing of embedded systems.
35	192ST3O01	Repair & Rehabilitation of Structures	✓			Students are able to acquire skills related to various aspects of studying detroitation of concrete structures and rehabilitation of these using advanced technologies, like preservation of monuments and other detroited structures enabling them to be employed in civil industry
36	192ST3O02	Green Building Systems				
37	192ST3O03	Basic Concrete Technology	✓			Students are able to acquire cognitive skills related to properties of concrete, design and test the concrete useful in constructional activities enabling them to be employed in constructional sector.
38	192ST3O04	Basic Foundation Engineering		✓		Students are able to acquire skills related to basic concepts of foundations and their importance to various structures/buildings

No.	Code	Course				Outcome
39	192PD3O01	Renewable Energy Technologies		✓		Students are able to acquire skills related to solar, wind and bio-mass energy resources and conversion principles and techniques of various renewable resources.
40	192PD3O02	Hybrid Electric Vehicles	✓			Students are able to acquire skills related to various types hybrid vehicles operations and control enabling the students to get employed in EV sector.
41	192PD3O03	Energy Audit and conservation 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.
42	192PD3O04	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
43	192PD3O05	Industrial Safety			✓	This course helps to enable the students learn about environmental factors related to human, to enrich the students with anthropometric principles for work space design and to make the students to acquire knowledge on advance effects of air pollution, safety regulations and standards.
44	192PD3O06	Composite Materials			✓	Students are able to acquire skills related to synthesis and characterization of various types of composite materials
45	192TE3O01	Energy Systems	✓			Students are able to acquire skills related to the importance of energy management in the functional area and carrying out budgeting and risk analysis of projects enabling them to be employed in Energy sector.
46	192TE3O02	Fuels and Combustion	✓			Students are able to acquire skills in analysing various fuels and the effect of combustion of fuels on environment enabling them to be employed in automotive, aerospace sectors.
47	192TE3O03	Green Engineering Technology		✓		Students are able to acquire skills in analyzing the significance of alternative sources of energy, green energy systems.
48	192TE3O04	IC Engines	✓			Students are able to acquire skills related to the engine performance by using turbo charging and super charging and enabling them to be employed in automotive industries.

49	192TE3O05	Automotive Technology	✓			Students are able to acquire skills related to the concepts of transmission system, various braking systems and suspension systems enabling them to be employed in automotive sector.
50	192ES3O01	Embedded System Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of embedded systems enabling them to be employed for designing and manufacturing of electronic systems
51	192ES3O03	Programming Languages for Embedded Systems	✓			Students are able to acquire skills related to design, and develop programs with C and C++ enabling them to be employed for designing and manufacturing of Embedded systems.
52	192ES3O04	Sensors & Actuators	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of sensors and actuators enabling them to be employed for designing and manufacturing of electrical/ electronic systems
53	192CS3O01	Python Programming (CSE)	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
54	192CS3O02	Principles of Cyber Security	✓			Students are able to acquire skills related to design, develop and evaluate the performance of secure systems enabling them to be employed for designing and manufacturing of secure communication equipment.
55	192CS3O03	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
56	192CS3O04	Machine Learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists
57	192CS3O05	Artificial Intelligence	✓			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
58	192CS3O06	Deep Learning	✓			Students are able to acquire skills related to Deep learning, to analysis of different Deep learning algorithms and solving process in creative way.
59	192PE3O01	Introduction to Petroleum Engineering		✓		Students are able to demonstrate technical skill of characterizing different streams , modelling and analysis of process in Petroleum Industry.

60	192PE3O02	Process Intensification		✓		Students are able to demonstrate technical skill of characterizing different intensifications , modelling and analysis of process in Petroleum Industry.
61	192PE3O03	Fundamentals of Liquefied Natural Gas	✓			Students are able to acquire skills related to various aspects of different crude behaviour enabling them to be employed as process and transport engineers.
62	192PE3O04	Subsea Engineering		✓		Students are able to demonstrate technical skill of characterizing different subsea structures , modelling and analysis of production
63	192PE3O05	Geology	✓			Students are able to acquire skills related to various aspects of various structures , traps, stratigraphy's enabling them to be employed as petroleum geologists.
64	192PE3O06	HSE in Petroleum Industry			✓	Students are able to apply the knowledge of safety management enabling them to become an entrepreneur in any domain of their choice.
65	192VD3P03	Dissertation-I/ Industrial 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

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
66	192VD4P04	Dissertation-II	✓			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		66	39	12	4	

PROGRAM COORDINATOR

HEAD OF THE DEPARTMENT