1.1.3 Mapping of courses having focus on employability/ entrepreneurship/ skill development offered by the institution (Program wise) during the academic year 2020-21.

Supporting documents

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 modeling physical phenomenon using ordinary differential equations, system of linear equations in various engineering disciplines.
3	201BS1T02	Engineering Physics				
4	201ES1T01	Building Materials & Construction	✓			Students are able to acquire skills related to various aspects of construction materials enabling them to be employed in constructional sector.
5	201ES1T05	Engineering Graphics		✓		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 technical skills to express fluently in both written as well as oral form of language which is very much essential for the career growth
7	201BS1L01	Engineering Physics Lab				
8	201ES1L01	Engineering Workshop		✓		Students are able to acquire skills related to building various joints in different trades for several applications.
9	201MC1T01	Environmental Science				

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
11	201BS2T05	Partial Differential Equations and Vector Calculus		✓		Students are able to demonstrate problem solving skills by modeling physical phenomenon using partial differential equations vecor differentiation , vector integration and their applications in various engineering disciplines.
12	201BS2T08	Chemistry of Materials				
13	201ES2T06	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.
14	201ES2T08	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.
15	201ES2T12	Surveying			✓	Students are able to demonstrate competency in the domain of measuring distances and calculate areas enabling them to become a surveyor.
16	201ES2L05	Surveying field Work		✓		Students are able to demonstrate technical skill in the domain of measuring distances and calculate areas training the students to face real time measurements and calculations as surveyors
17	201BS2L05	Engineering Chemistry Lab				
18	201ES2L10	Programming for Problem Solving Using C	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.
19	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
20	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
21	191BS3T11	Integral transforms and applications of Partial Differential Equations		✓		Students are able to demonstrate problem solving skills by modeling physical phenomenon using partial differential equations and by learning Fourier Transforms and Laplace Transforms and their applications
22	191ES3T10	Internet of things (IOT)	✓			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.
23	191HS3T02	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.
24	191CE3T01	Strength of materials – I	✓			Students are able to acquire skills related to resistance to mechanical forces and enabling them to be employed for constructional acitivities.
25	191CE3T02	Fluid mechanics	✓			Students are able to acquire skills related to mechanics of fluids (liquids, gases, and plasmas) and the forces on them in pipe design calculations enabling them to be employed in constructional industry.
26	191CE3T03	Surveying			✓	Students are able to demonstrate competency in the domain of measuring distances and calculate areas enabling them to become a surveyor.
27	191CE3L01	Surveying lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modeling and analysis helps in training the students to face real time measurements and calculations as surveyors
28	191CE3T04	Computer aided civil engineering drawing	✓			Students are able to acquire skills related to visualizing the different parts of a building using building by-laws and enabling them to be employed as planners. Skill Development - Students are able to demonstrate technical skills of characterizing buildings and develops creative thinking for future endeavours in constructional industry
29	191CE3L02	Strength of materials lab		✓		Students are able to demonstrate technical skills related to resistance of materials to mechanical forces and apply them in constructional industry
30	191MC3A03	Employability Skills – I	✓			This subject helps the students to accquire 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.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
31	191BS4T16	Numerical methods & Statistical Techniques (CE, ME, Ag. E)		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals , probability distributions, sampling theory and test of hypothesis.
32	191HS4T03	Management science			✓	Students are able to demonstrate competency in the domain of business management enabling them to become an entrepreneur.
33	191CE4T05	Structural analysis	✓			Students are able to acquire skills related to various aspects of framed structures which can be applied in any real time projects.
34	191CE4T06	Construction materials and concrete technology	✓			Students are able to acquire cognitive skills related to properties of concrete, design and test the concrete useful in constructional acitivities enabling them to be employed in constructional sector.
35	191CE4T07	Strength of materials – II	✓			Students are able to acquire skills related to quantitative description of the motion and deformation of solid materials enabling them to be employed for constructional sector.
36	191CE4T08	Hydraulics and hydraulic machinery	✓			Students are able to acquire skills related to dam construction, mainly for maximum efficiency of resources available in the surroundings of the establishment enabling them to be employed for designing of dams and related structures.
37	191CE4L03	Fluid mechanics & hydraulic Machinery lab		✓		Students are able to demonstrate technical skills in working with turbines, pumps and understand flow behaviour at various sections of harnessing energy from alternate energy sources.
38	191CE4L04	Construction materials and concrete technology lab		✓		Students are able to demonstrate technical skill of various construction materials and testing of concrete.
39	191MC4A05	Employability Skills – II				
40	191MC4A06	Biology for Engineers				

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
41	171HS5T05	Management Science			✓	Students are able to demonstrate competency in the domain of business management enabling them to become an entrepreneur.
42	171CE5T10	Design and Drawing of Reinforced Concrete Structures	✓			Students are able to acquire skills related to designing of structural elements like beams, columns, slabs and foundations enabling them to be employed as designers and planners
43	171CE5T11	Transportation Engineering	✓			Students are able to acquire skills related to various aspects of geometric properties of road and apply the concept in design of railway and study of airport charactersitcs enabling them to be employed in consttructional industry
44	171CE5T12	Structural Analysis - II	✓			Students are able to acquire skills related to analysis of framed structures using advanced methodologies enabling them to be employed in developing structural related softwares used in constructional industry.
45	171CE5T13	Water Resource Engineering - I	✓			Students are able to acquire skills related to characteristics of flood analysis based on hydrograph which help in predicting precipitation and deciding level of rainfall received in an area enabling them to be employed in drought management department of government
46	171CE5E01	(PE I)Construction Technology and Management	✓			Students are able to acquire skills related to various management principles involved in constructions and the machinery used in the field of constructional activities enabling them to be employed as designers in development of various machinery
47	171CE5E02	Urban Hydrology	✓			Students are able to acquire skills related to concepts of drainage principles of surface runoff and its importance in conservation of water in the society enabling them to be employed as civil engineers
48	171CE5E03	Traffic Engineering	✓			Students are able to acquire skills related to traffic behaviour by using traffic flow parameters enabling them to be employed by RandB industry
49	171HS5T06	Employability Skills - III	✓			This subject helps the students to accquire 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.
50	171CE5L04	Engineering Geology Lab		✓		Students are able to demonstrate technical skill of geological knowledge in selection of suitable sites for construction and gather raw material like rocks and sand used as materials in buildings enabling them to be employed in constructional

						industry
51	171CE5L05	Transportation Engineering Lab		✓		Students are able to demonstrate technical skill of testing of materials and traffic data collection applied in real time situation of RandB industry
52	171CE5S01	MOOCs – I		✓		Students are able to demonstrate technical skill of various online courses available adding to their curricular courses
53	171CE5P03	Surveying Camp		✓		Students are able to demonstrate Problem solving skills to the case studies they undertake as mini projects involving various surveying techniques

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
54	171CE6T14	Design and Drawing of Steel Structures	✓			Students are able to acquire skills related to properties of steel structures and designing of connections between the structural members at industrial, offshore, high rise building enabling them to be employed for designing of building units.
55	171CE6T15	Geotechnical Engineering - I	✓			Students are able to acquire skills related to various properties of soil deciding the strength required in substructure design of a building/construction enabling them to be employed in construction industry.
56	171CE6T16	Water Resource Engineering - II	✓			Students are able to acquire skills related to various aspects of irrigation structures and their design in agricultural activities enabling them to be employed in the concerned industry.
57	171CE6T17	Prestressed Concrete	✓			Students are able to acquire skills related to bridge desining and metro constructions enabling them to be employed in constructional industry
58	171CE6E04	PE II Ground Water Development	✓			Students are able to acquire skills related to various aspects of application of knowledge in study of subsurface formations to identify aquifers and various artificial recharge methods in conservation of water in the society enabling them to be employed as engineers in various sectors of society.
59	171CE6E05	Pavement Analysis and Design	✓			Students are able to acquire skills related to various aspects of designing of flexible and rigid pavements enabling them to be employed in RandB industry
60	171CE6E06	Repair and Rehabilitation of Structures	✓			Students are able to acquire skills related to various aspects of studying detroitaton 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
61	171CE6E07	PE III Ground Improvement Techniques	✓			Students are able to acquire skills related to roadway design enabling them to be employed in R and B industry
62	171CE6E08	Finite Element Methods		✓		Students are able to acquire problem solving skills related to structural related problems and developing software programs and enabling them to be employed in various software related constructional industries
63	171CE6E09	Earthquake Resistant Design	✓			Students are able to acquire skills related to design, evaluate the performance and properties of structural members when subjected to seismic loads and designing earthquake resistant structures enabling them to be employed as structural engineers
64	171HS6T07	Employability Skills - IV	✓			This subject helps the students to accquire 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	171CE6L06	Geotechnical Engineering Lab		✓		Students are able to demonstrate technical skill of characterizing soil tests on various types of soil to decide suitability of soil for construction acitvities as a civil engineer
66	171CE6L07	Irrigation Design and Drawing		✓		Students are able to demonstrate technical skill of characterizing various types of irrigation structures and their design use ful in the agricultural industry
67	171CE6S02	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	171CE7T18	Geotechnical Engineering - II				Students are able to acquire skills related to slopes and finding out the earth pressures using various methodologies applied in foundation design of a building enabling them to be employed for constructional sector.
69	171CE7T19	Environmental Engineering				Students are able to acquire skills related to design and evaluate the water supply system and treatment of wastewater generated in the society and its management enabling them to be employed for designing deals with as civil engineers
70	171CE7T20	Remote Sensing and GIS Applications				Students are able to acquire skills related to classification and map making for various spatial references like, ground water, forestry, transportation in the real world enabling them to be employed in various industries
71	171CE7T21	Estimation, Specifications and Contracts				Students are able to acquire skills related to estimating material and cost of it for various constructional activities enabling them to be employed in constructional industry.
72	171CE7E10	PE IV Advanced Structural Engineering				
73	171CE7E11	Watershed Management				Students are able to acquire skills related to the effective usage of water and land resources for sustainable future in the society enabling them to be employed as civil engineers
74	171CE7E12	Design of Tall Buildings				Students are able to acquire skills related to design, evaluate and construct apartments/high rise buildings enabling them to be employed in constructional industry
75	171CE7E13	PE V Bridge Engineering				Students are able to acquire skills related to design, evaluate and study the force applied by the flow of water and relating it to design of dynamics/cyclic loads in various types of bridges enabling them to be employed in constructional industry
76	171CE7E14	Environmental Impact Assessment and Management				Students are able to acquire skills related to asssessment of the impact of any developmental activity in any sector of the environment and mitigation of negative impacts in the environment enabling them to be employed in as environmental managers/engineers
77	171CE7E15	Water Resources Systems Planning				Students are able to acquire skills related to planning of various water sources and their conservational principles in the society enabling them to be employed in civil industry
78	171CE7L08	Environmental Engineering Lab				Students are able to demonstrate technical skill of characterizing water samples with respect to physical and chemical examination required for drinking water supply and constructional activities and waste water for treatment and disposal in municipal sector of the society
79	171CE7L09	GIS And Computer Aided Design (CAD) Lab				Students are able to demonstrate technical skill of experimenting various remote sensing softwares like Arc GIS, ERDAS etc. used in image analysis and map making at various land scapes in constructonal industry

80	171CE7P01	Industry Oriented (Internship) Minor Project				Students will be able to demonstrate problem identification, analysis, design solutions or applications in eletronics and communication domain through the aquired 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	171CE8E16	PE VI Urban Transportation Planning Engineering				
82	171CE8E17	Soil Dynamics and Foundations				Students are able to acquire skills related to behavior of a soil subjected to dynamic (actions having high acceleration) loading and impact on the foundations enabling them to be employed in constructional industry
83	171CE8E18	Solid And Hazardous Waste Management				Students are able to acquire skills related to various aspects of managing the municipal solid waste generated and its importance in sustainable development of the society in various industries and municipalities enabling them to be employed as sanitary engineers/managers/inspectors
84	171CE8E19	Air Pollution and Control				Students are able to acquire skills related to various aspects of air pollution concepts and their control and their application in the society enabling them to be employed as environmental engineers
85	171CE8O01	OE Electronic Instrumentation				.
86	171CE8O02	Database Management Systems				Students are able to acquire skills related to sql commands, constraints, views, pl/sql programming enabling them to be employed for backend developer
87	171CE8O03	Alternative 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 emplyed in renewable energy generation sector.
88	171CE8O04	Waste Water Management				Students are able to demonstrate technical skill of characterizing various waste water treatment rechnologies.
89	171CE8O05	Fundamentals of Liquefied Natural Gas				
90	171CE8O06	Green Fuel Technologies				Students are able to acquire skills related to different energy resources enabling them to be employed for energy sector.
91	171CE8O07	Green Engineering Systems				Students are able to demonstrate problem solving skills in analyzing the significance of alternative sources of energy, green energy systems.
92	171CE8P02	Major Project				students will be able to demonstrate problem identification, analysis, design solutions or applications in Civil Engineering domain through the aquired technical, cognitive,communication and creative skills to address societal needs.
TOTAL		**92**	**44**	**31**	**6**	

Program Coordinator

Head of the Department

Head of the Department
Dept. of Civil Engineering
ADITYA ENGINEERING COLLEGE (A9)

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

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

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 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 et 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	

Program Coordinator

Head of the Department

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

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	201BS1T02	Engineering Physics				
4	201ES1T03	Essential Electrical and Electronics Engineering		✓		This subject helps the student to demonstrate their technical skills by analyzing various electrical networks, knowing the operation of Dc generators, analyzing the performance of single phase transformers and 3-phase induction motors. This will create skills among student so that wherever they will find these types of machine their deal with their complexities.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
5	201ES1T05	Engineering Graphics		✓		This subject helps the student to demonstrate technical skills as they have knowledge about engineering drawing and AutoCAD software for orthographic projections and isometric projection.
6	201HS1L01	Communicative English 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.
7	201BS1L01	Engineering Physics Lab				
8	201ES1L03	Essential Electrical and Electronics Engineering Lab		✓		This subject helps the student to demonstrate technical skills as they are able to analyze electrical networks using network theorems, performance of AC and DC Machines, diode characteristics and its application and simulation of diode and transistor.
9	201MC1T01	Environment 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	201BS2T08	Chemistry of Materials				
12	201ES2T06	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.
13	201ES2T08	Programming for Problem Solving using C	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.
14	201ES2L07	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.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
15	201ES2L12	Computer Aided Drafting Lab		✓		Students are able to acquire skills related to drafting of mechanical components/assemblies through AUTOCAD software enabling them to be employed as a design engineer.
16	201HS2L02	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.
17	201BS2L05	Engineering Chemistry Lab				
18	201ES2L10	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.
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	191BS3T11	Integral Transforms and Applications of Partial Differential Equations		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using partial differential equations and by learning Fourier Transforms and Laplace Transforms and their applications
21	191ME3T01	Fluid Mechanics & Hydraulic Machinery	✓			Students are able to acquire skills related to concepts of fluid statics, dynamics and performance characteristics of turbines and pumps and enabling them to be employed as a fluid engineer.
22	191ME3T02	Computer Aided Engineering Drawing Practice		✓		Students are able to acquire skills related to drafting of mechanical components/assemblies through AUTOCAD software enabling them to be employed as a design engineer.
23	191ME3T03	Mechanics of Solids	✓			Students are able to acquire skills related to bending and shear stresses for beams of various loads and supports enabling them to be employed as a stress analysis engineer in core design industries
24	191ME3T04	Thermodynamics	✓			Students are able to acquire skills related to various thermodynamic systems and power cycles and enabling them to be employed as Thermodynamic engineer.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
25	191ME3T05	Metallurgy &Material Science	✓			Students are able to acquire skills related to mechanical behaviour of materials under different loading conditions enabling them to be employed as a materials engineer.
26	191ME3L01	Fluid Mechanics & Hydraulic Machines Lab		✓		Students are able to demonstrate technical skills in determining the efficiencies of pumps and turbines, enabling them to be employed in pipe design industries.
27	191ME3L02	Mechanics of Solids &Metallurgy Lab		✓		Students are able to acquire skills related to testing of material behaviour under various direct loads, Microstructure of metals Non metals.
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 demonstrate technical skills as they were able to understand concept of Traditional knowledge and its importance, enactments related to the protection of traditional knowledge and traditional knowledge in Agriculture and Medicine.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	191BS4T16	Numerical Methods& Statistical Techniques		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals , probability distributions, sampling theory and test of hypothesis.
31	191HS4T04	Managerial Economics and Financial Analysis			✓	Students are able to demonstrate Competency in gaining the managerial skill set and enabling them to be an entrepreneur.
32	191ES4T15	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
33	191ME4T06	Production Technology	✓			Students are able to acquire skills related to various manufacturing process, different joining techniques and bulk metal deforming processes enable them to be employed as a production engineer in manufacturing industries
34	191ME4T07	Kinematics of Machinery	✓			Students are able to acquire skills related to the concepts of kinematics of machine elements, chains and mechanisms and enabling them to be employed in mechanical design field.
35	191ME4T08	Thermal Engineering-I	✓			Students are able to acquire skills related to working of I.C.Engines, Compressors and enabling them to be employed in thermal Power Plants.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
36	191ME4L03	Production Technology Lab		✓		Students are able to acquire skills related to various manufacturing process, different joining techniques and bulk metal deforming processes.
37	191ME4L04	Computer Aided Machine Drawing		✓		Students are able to acquire skills related to construction of assembly drawings from the part drawings for manufacturing and enabling them to be employed as a computer aided design engineer.
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 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	171ME5T08	Dynamics of Machinery	✓			Students are able to acquire skills in analysing the machines in dynamic conditions and enabling them to be employed in automotive and aerospace industries.
41	171ME5T09	Metal Cutting and Machine Tools	✓			Students are able to acquire skills and fundamental knowledge on principles of material removal processes, enabling them to be employed in manufacturing industries
42	171ME5T10	Thermal Engineering -II	✓			Students are able to acquire skills on basic knowledge of Rankine cycle, boilers, chimneys, gas turbines and enabling them to be employed in thermal power plants.
43	171ME5T11	Design of Machine Members-II	✓			Students are able to acquire skills related to design of machine members and enabling them to be employed in design engineering field.
44	171ME5T12	Operations Research	✓			Students are able to acquire analytical skills in finding optimal solutions of different models using various decision-making techniques.
45	171ME5E01	Automobile Engineering	✓			Students are able to acquire skills related to the fundamental working principles and technologies and enabling them to be employed in automotive sector.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
46	171ME5E02	Mechanical Vibrations	✓			Students are able to acquire skills related to analysis of periodic responses of an vibrating system without and with damping systems.
47	171ME5E03	Additive Manufacturing	✓			Students are able to acquire skills on basic knowledge of various additive manufacturing processes and enabling them to be employed in manufacturing industries
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	171ME5L02	Theory of Machines Lab		✓		Students are able to acquire skills related to analysis of mechanisms for a specified type of motion in machine.
50	171ME5L03	Thermal Engineering Lab		✓		Students are able to acquire analytical skills on working and performance of Incentives and Reciprocating compressors.
51	171ME5S01	MOOCS-I		✓		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
52	171ME6T13	Heat Transfer	✓			Students are able to acquire analytical skills on the concept of heat transfer through conduction, convection, radiation and performance of heat exchangers and enabling them to be employed in piping design industries.
53	171ME6T14	Refrigeration and Air Conditioning	✓			Students are able to acquire skills on working of refrigeration and air conditioning and enabling them to be employed in refrigeration and air conditioning industries.
54	171ME6T15	Metrology and Instrumentation	✓			Students are able to acquire skills related to the measurement of linear and angular measuring instruments, working of measuring instruments and control systems.
55	171ME6E04	Robotics	✓			Students are able to acquire skills to understand the concepts of robot kinematics, Dynamics and trajectory planning enabling them to be employed in robot manufacturing companies
56	171ME6E05	Design for Manufacturing	✓			Students are able to demonstrate technical skills in design of manufacturing through consideration of cost, quality and reliability.
57	171ME6E06	Non-Destructive Evaluation	✓			Students are able to acquire skills in characterizing the material behavior through different Non-destructive evaluation methods and enabling them to be employed in automotive and aerospace industries.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
58	171ME6E07	Unconventional Machining Processes	✓			Students are able to acquire skills on modern machining processes and working principles enabling them to be employed in machining industries
59	171ME6E08	Industrial Hydraulics and Pneumatics	✓			Students are able to demonstrate problem solving skills in analyzing the concepts of hydraulic systems, pneumatic systems and its components.
60	171ME6E09	Quality &Reliability Engineering	✓			Students are able to acquire skills in improving the quality and reliability of systems and enabling them to be employed in quality control and quality assurance fields
61	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.
62	171ME6L04	Machine Tools Lab		✓		Students are able to acquire skills to operate various machine tools. enabling them to be employed in Manufacturing sector.
63	171ME6L05	Heat Transfer Lab		✓		Students are able to demonstrate problem solving skills in calculating the heat transfer coefficient through conduction, convection and radiation.
64	171ME6L06	Metrology & Instrumentation Lab		✓		Students are able to acquire technical skills in measuring linear and angular measurements and calibrate pressure gauge, Temperature detectors and LVDT and enabling them to be employed in material characterization labs and various manufacturing industries.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
65	171ME6S02	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
66	171ME7T16	CAD/CAM		✓		Students are able to demonstrate problem solving skills for improving productivity and enhancing the best practices of the company.
67	171ME7T17	Mechatronics	✓			Students are able to demonstrate technical skills to measure the load, displacement and temperature using analogue and digital sensors.
68	171ME7T18	Finite Element Methods	✓			Students are able to acquire skills in solving differential equations in fields of structural analysis, heat transfer and fluid flow and enabling them to be employed in mechanical design industries as a FEA-Engineer
69	171ME7T19	Power Plant Engineering	✓			Students are able to acquire skills in analyzing the power plant economics and environmental considerations enabling them to be employed in power sector.
70	171ME7E10	Computational Fluid Dynamics	✓			Students are able to acquire skills related to understand the basics of computational fluid dynamics (CFD) and compare finite difference and finite volume methods applied in CFD and enabling them to be employed as Computational fluid dynamics engineer.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
71	171ME7E11	Green Engineering Systems	✓			Students are able to acquire skills in analyzing the significance of alternative sources of energy, green energy systems.
72	171ME7E12	Nano Materials and Technology	✓			Students are able to acquire skills related to synthesis and characterization of different nano materials for engineering and technological applications.
73	171ME7E13	Gas Dynamics	✓			Students are able to acquire skills in analyzing the behavior of isentropic flow of ideal gases and enabling them to be employed gains employment in thermal power plants.
74	171ME7E14	Condition Monitoring	✓			Students are able to acquire skills in detecting the faults in the systems by monitoring several parameters to prevent major failures.
75	171ME7E15	Flexible Manufacturing Systems	✓			Students are able to acquire skills in implementing the flexible manufacturing systems and summarize the concepts of advanced flexible manufacturing systems.
76	171ME7L07	CAD/CFD Lab		✓		Students are able to acquire skills related to fundamental knowledge on various analytical tools for engineering simulation and enabling them to be employed in areas of computer aided design
77	171ME7L08	CAM/Mechatronics Lab		✓		Students are able to acquire skills in constructing the Computed numerical control programming for various machining operations, construct ladder diagrams for logical operations.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
78	171ME7P01	Industry Oriented (Internship) Mini Project		✓		Students will be able to demonstrate problem identification, analysis, design solutions or applications in mechanical engineering 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
79	171ME8E16	Production Planning and Control	✓			Students are able to acquire skills in improving the concepts of production planning and production control techniques enabling them to be employed in manufacturing industries.
80	171ME8E17	Advanced Materials	✓			Students are able to acquire skills in synthesis and characterization of advanced materials.
81	171ME8E18	Thermal Equipment Design	✓			Students are able to acquire skills in analyzing the performance of different types of heat exchangers, vaporizer, evaporators enabling them to be employed in pipe design industries
82	171ME8O03	Entrepreneur Resource Planning			✓	The students are able to acquire skills related to ERP-SCM, which enable them to be employed in Software companies
83	171ME8O04	Computer Graphics	✓			Students are able to acquire related 2D,3D graphical representations and basic graphic programming using openGL enabling them to employed as graphic designer.
84	171ME8P02	Major Project		✓		Students will be able to demonstrate problem identification, analysis, design solutions or applications in mechanical engineering domain through the acquired technical, cognitive, communication and creative skills to address societal needs.
Total		**84**	**44**	**33**	**2**	

Program Coordinator

Head of the Department

Head of the Department
Department of Mechanical Engineering
Aditya Engineering College (A)
SURAMPALEM-533 437

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	201BS1T04	Engineering Chemistry				
4	201ES1T02	Programming for Problem Solving using C				
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 technical skills to express fluently in both written as well as oral form of language which is very much essential for the career growth.
7	201BS1L03	Engineering Chemistry 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	201BS2T06	Transform Techniques		✓		Students are able to demonstrate problem solving skills by learning Fourier Transforms , Laplace Transforms, Z-Transforms and their applications
11	201BS2T09	Applied Physics				
12	201ES2I03	Object Oriented Programming through JAVA		✓		Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using Java, enabling them to be employed as software developers.
13	201ES2T10	Basic Electrical Engineering	✓			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	201ES2T14	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.
15	201ES2L08	Electronics Engineering Workshop				
16	201BS2L04	Applied Physics Lab				
17	201ES2L13	Basic Electrical Engineering Lab				
18	201MC2L01	Professional Communication 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	191BS3T13	Numerical Methods & Vector Calculus		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals, vector differentiation and vector integration
21	191ES3T12	Random Variables and Stochastic Processes	✓			Students are able to acquire skills related to statistical knowledge enabling them to be employed for designing and manufacturing of to communication equipment
22	191HS3T02	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.
23	191EC3T01	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.
24	191EC3T02	Digital Electronics and Logic Design	✓			Students are able to acquire skills related to design, and synthesize basic of digital ckts enabling them to be employed for designing and manufacturing of electronic equipment.
25	191EC3T03	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.
26	191EC3L01	Electronic Devices and Circuits Lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits.
27	191ES3L16	Digital Electronics and Logic Design Lab		✓		Students are able to demonstrate technical skill of design simple digital circuits and test them
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				

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	191ES4T16	Data Structures	✓			Students are able to acquire technical skills related to demonstrate fundamental algorithmic problems that enable them to be employed as software developers
31	191ES4T17	Control Systems	✓			Imparts foundations of control systems, which are helpful in controlling industrial and domestic processes, making the student employable.
32	191EC4T04	Analog Electronic Circuits	✓			Students are able to acquire skills related to analog electronic circuits like amplifiers and oscillators enabling them to be employed for designing and manufacturing of electronic systems
33	191EC4T05	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
34	191EC4T06	Microprocessors & Micro Controllers	✓			Students are able to acquire skills related to design of electronic circuits with micro processors and controllers enabling them to be employed for designing and manufacturing of electronic equipment.
35	191EC4T07	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
36	191EC4L02	Analog Electronic Circuits – Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of communication circuits.
37	191EC4L03	Microprocessors & Micro Controllers Lab		✓		Students are able to acquire skills related to design and programming of electronic circuits with micro processors and controllers enabling them to be employed for designing and manufacturing of digital electronic equipment.
38	191EC4L04	Analog Communications Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of communication circuits.

39	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.
40	191MC4A06	Biology for Engineers				

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
41	171EC5T09	Linear IC Applications	✓			Students are able to acquire skills related to basic ckt. design in the field of analog ICs enabling them to be employed for designing and manufacturing of electronic equipment.
42	171EC5T10	Digital IC Applications	✓			Students are able to acquire skills related to basic ckt. design in the field of digital ICs enabling them to be employed for designing and manufacturing of digital electronic equipment.
43	171EC5T11	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.
44	171EC5T12	Antennas and Wave Propagation	✓			imparts knowledge related to communication concepts, radiation and reception of radio waves using antennas, which is helpful in being employable in the field of communications
45	171EC5E01	Computer Architecture and 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
46	171EC5E02	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.
47	171EC5E03	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
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	171EC5L04	Linear IC Applications Lab		✓		Students are able to demonstrate technical skill of designing electronic circuits with linear ices in the fields of instrumentation, communications

						etc.
50	171EC5L05	Digital IC Applications Lab		✓		Students are able to demonstrate technical skill of designing electronic circuits with digital ices.
51	171EC5L06	Pulse and Digital Circuits Lab		✓		Students are able to demonstrate technical skill of modelling and analysis of electronic circuits.

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
52	171EC6T13	Micro Processors and MicroControllers	✓			Students are able to acquire skills related to design of electronic circuits with micro processors and controllers enabling them to be employed for designing and manufacturing of electronic equipment.
53	171EC6T14	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	171EC6T15	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.
55	171EC6E04	CPLD and FPGA Architectures	✓			Students are able to acquire skills related to design, program and evaluate the performance of CPLDs, and FPGAs and enable them to be employed for designing and manufacturing of electrical equipment with CPLDs and FPGAs.
56	171EC6E05	Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and Linux programming which enables them to be employed as Hardware core side job opportunities
57	171EC6E06	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.
58	171EC6E07	Digital Design Through Verilog	✓			Students are able to acquire skills related to design, program and evaluate the performance of CPLDs, and FPGAs and other programmable devices using Verilog enable them to be employed for designing and manufacturing of electrical equipment with programmable devices.
59	171EC6E08	Biomedical Engineering	✓			Students are able to acquire skills related to design, program and evaluate the performance of biomedical instruments like ECG, EMG etc enable them to be employed for designing and manufacturing of electrical equipment in the field of medicine.

60	171EC6E09	Information Theory and Coding	✓			Students are able to acquire skills related to operation and performance of digital communication equipment using error detecting , correcting and source coding techniques enabling them to be employed for designing and manufacturing of digital systems.
61	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.
62	171EC6L07	Micro Processor and Micro Controllers Lab		✓		Students are able to demonstrate programming skill related to microprocessors and controllers, interfacing of peripherals etc
63	171EC6L08	VLSI lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modelling and analysis of electronic circuits in the field of VLSI.
64	171EC6L09	Digital Communications Lab		✓		Develops practical skills required for development of basic communication circuits.

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
65	171EC7T16	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.
66	171EC7T17	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 , radar systems etc.
67	171EC7T18	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.
68	171EC7T19	Optical Communications	✓			Students are able to acquire skills related to design, fabricate and evaluate the performance of optical communication systems enabling them to be employed for designing, manufacturing and implementation of fiber optic communication systems
69	171EC7E10	Digital Signal Processors	✓			Students are able to acquire skills related to design, program and implement digital signal processing systems and evaluate their performance enabling them to be employed for designing and manufacturing of electronic equipment with DSP processors infields like biomedical instrumentation, speech detection systems etc.
70	171EC7E11	Embedded Systems	✓			Students are able to acquire skills related to design, program and implement embedded systems enabling them to be employed for designing and manufacturing of biomedical, communication and radar equipment .
71	171EC7E12	Cellular and Mobile Communications	✓			Students are able to acquire skills related to operation and performance of cellular mobile communication systems enabling them to be employed for designing , manufacturing installing and troubleshooting of mobile communication systems.
72	171EC7E13	Analog IC Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of current mirrors, amplifiers and opamps enabling them to be employed for designing and manufacturing of analog Ics

73	171EC7E14	Cryptography and Network Security		✓		Students are able to acquire technical skills to work with different cryptographic techniques, Symmetric and asymmetric cryptographic techniques, key management and security at network level.
74	171EC7E15	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.
75	171EC7L10	Microwave Engineering and Optical Communications Lab		✓		Students are able to demonstrate technical skill of characterizing microwave devices, and optical communication devices modelling and analysis of microwave and optical communication circuits.
76	171EC7L11	Digital Signal and Image Processing Lab		✓		Students are able to demonstrate technical skill of application of various algorithms in the fields of communications and image processing fields.
77	171EC7P01	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
78	171EC8E16	Mixed Signal IC Design	✓			Students are able to acquire skills related to design, mixed signal ICs , which consist of both analog and digital signals enabling them to be employed for designing and implementation of mixed signal ices, which input and output analog signals, while processing them digitally
79	171EC8E17	Wireless Sensors and Networks	✓			Students are able to acquire skills related to design, wireless adhoc networks enabling them to be employed for designing and implementation of WSNs
80	171EC8E18	Satellite Communications	✓			Students are able to acquire skills related to design, analyze and evaluate the performance of satellite communication systems
81	171EC8O01	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.
82	171CE8O04	Waste Water Management		✓		Students are able to demonstrate technical skill of characterizing various waste water treatment technologies
83	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.
84	171EC8O02	Disaster Management	✓			Students are able to acquire skills related to interpretation of various disasters in the environment and prepares one to prevent, face and combat them enabling them to be employed as managers in various industries
85	171EE8O07	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
86	171EC8O03	Neural Networks	✓			Gives knowledge related to ANN and applications, which leads to better employability in the field of machine learning.

87	171CE8O03	Alternative Energy Sources		✓		Students are able to demonstrate technical skill of characterizing different Alternative Energy Sources , modelling and analysis of Automobiles..
88	171CE8O02	Database Management Systems	✓			Students are able to acquire skills related to SQL commands, constraints, views, pl/SQL programming enabling them to be employed for backend developer
89	171EC8O04	Web Technologies	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
90	171CE8O06	Green Fuel Technologies		✓		Students are able to demonstrate technical skill of characterizing different energy resources , modelling and analysis of energy sector
91	171EC8P02	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		**91**	**51**	**29**	**1**	

PROGRAM COORDINATOR

HEAD OF THE DEPARTMENT

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

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	201BS1T04	Engineering Chemistry				
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	201ES1I02	Computer Engineering Workshop		✓		Students are able to acquire skills related to Microsoft office tools, basics of Machine Learning and IOT.
6	201HS1L01	Communicative English 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.
7	201BS1L03	Engineering Chemistry 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	201BS2T07	Numerical Methods and 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.
11	201BS2T09	Applied Physics				
12	201ES2T11	Computer Organization	✓			Students are nurtured with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
13	201ES2T04	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
14	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
15	201BS2L04	Applied Physics Lab				
16	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.
17	201ES2L14	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
18	201MC2L01	Professional Communication 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	191BS3T14	Discrete Mathematics		✓		Students are able to demonstrate problem solving skills by learning Mathematical logic , Inference Theory, Graph Theory .
21	191ES3T13	Digital Logic Design				
22	191HS3T02	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.
23	191CS3T01	Software Engineering				
24	191CS3T02	Object Oriented Programming through Java	✓			Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using Java, enabling them to be employed as software developers.
25	191CS3T03	Advanced Data Structures	✓			Students are able to acquire technical skills related to demonstrate advanced algorithmic problems enabling them to be employed as software developers.
26	191CS3L01	Object Oriented Programming through Java Lab	✓			Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using Java, enabling them to be employed as software developers.
27	191CS3L02	Advanced Data Structures Lab	✓			Students are able to acquire technical skills related to demonstrate advanced algorithmic problems 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 to the protection of traditional knowledge and traditional knowledge in Agriculture and Medicine.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	191BS4T18	Probability and Statistics		✓		Students are able to demonstrate problem solving skills by learning about random variables , probability distributions, sampling theory , test of hypothesis , correlation and regression.
31	191CS4T04	Formal Languages and Automata Theory		✓		Students will be able to acquire technical skills related to Finite Automata, Grammars and Parsers.
32	191CS4T05	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
33	191CS4T06	Design and Analysis of Algorithms		✓		Students are able to demonstrate problem solving skills by apply knowledge of computing and mathematics to algorithm design
34	191ES4T15	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
35	191CS4T07	Computer Organization	✓			Students are nurtured with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
36	191CS4L03	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
37	191ES4L17	Internet of Things Lab	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
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	171CS5T11	Compiler Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of Different Language Compilers and enabling them to be employed for designing of Compilers.
41	171CS5T12	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
42	171CS5T13	Design & Analysis of Algorithms		✓		Students are able to demonstrate problem solving skills by apply knowledge of computing and mathematics to algorithm design
43	171CS5T14	Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input &output and memory operations which enables them to be employed for Hardware core side job opportunities
44	171CS5E01	Unix and Shell Programming		✓		Students are able to demonstrate programming solving skills by Identifying and using UNIX utilities to create and manage simple file processing operations
45	171CS5E02	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.
46	171CS5E03	Computer Graphics				
47	171CS5E04	Software Testing Methodologies		✓		Students are able to acquire technical skills by applying different software testing techniques and strategies.
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	171CS5L05	Operating System and Linux Lab	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input &output and memory operations with Unix which enables them to be employed for Hardware core side job opportunities
50	171CS5L06	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
51	171CS5L07	Software Testing Lab		✓		Students are able to acquire technical skills by applying different software testing techniques and strategies.
52	171CS5L08	Compiler Design Lab	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of Different Language Compilers and enabling them to be employed for designing of Compilers.
53	171CS5S01	MOOCs – I		✓		Students are able to acquire technical skills by choosing an online course of their choice which is not related to academics

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
54	171CS6T15	Computer Networks	✓			Students are able to acquire skills related to computer networks, functionalities of reference model layers and transmitting data between nodes enabling them to be employed for networking environment
55	171CS6T16	Web Technologies	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as Front End developers.
56	171CS6T17	Data Ware Housing and Data Mining	✓			Students are able to acquire technical skills to synthesize and pre-process the raw data, and apply different classification and prediction algorithms which enable them to be employed as Data Analyst.
57	171CS6E05	Software Quality Assurance		✓		Students are able to demonstrate technical skills by Understanding the fundamental concepts of software automation
58	171CS6E06	Bio Informatics		✓		Students are able to gain knowledge on forensic analysis, gene therapy and molecular medicine
59	171CS6E07	Human Computer Interaction		✓		Students are able to demonstrate GUI components such as Menus, Forms, Dialog boxes and gain knowledge on various design paradigms, online documentation concepts, information retrieval & its presentation.
60	171CS6E08	Social Networks and Semantic Web		✓		Students are able to acquire technical skills with the fundamentals of Semantic Web technologies.
61	171CS6E09	Pattern Recognition		✓		Students are able to explain and compare a variety of pattern classification, structural pattern recognition, and pattern classifier combination techniques.
62	171CS6E10	Parallel Computing		✓		Students are able to understand techniques of parallel algorithm development and programming on different parallel platform.
63	171CS6E11	Storage Area Networks		✓		Students are able to acquire technical skill by understand the Storage Area Networks characteristics and components.
64	171CS6E12	E - Commerce		✓		Students are able to Understand the basic concepts and technologies used in the field of management.

65	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.
66	171CS6L09	Computer Networks Lab	✓			Students are able to acquire skills related to computer networks, functionalities of reference model layers and transmitting data between nodes enabling them to be employed for networking environment
67	171CS6L10	Data Ware Housing and Data Mining Lab	✓			Students are able to acquire technical skills to synthesize and pre-process the raw data, and apply different classification and prediction algorithms which enable them to be employed as Data Analyst.
68	171CS6L11	Web Technologies Lab	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
69	171CS6S02	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
70	171CS7T18	Cryptography and Network Security		✓		Students are able to acquire technical skills to work with different cryptographic techniques, Symmetric and asymmetric cryptographic techniques, key management and security at network level.
71	171CS7T19	UML and Design Patterns		✓		Students are able to demonstrate technical skill of unified modelling language and design pattern used in various software project.
72	171CS7T20	Cloud Computing	✓			Students are able to acquire skills related to Cloud computing and distributed computing enabling them to be employed for cloud services sector
73	171HS7T05	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.
74	171CS7E13	Software Project Management			✓	Students are able to apply the knowledge of Software Project Management skills and enabling them to become an entrepreneur in any domain of their choice.
75	171CS5E14	Big Data Analytics	✓			Students are able to gain skills related to Big data analytics and related tool enabling them to be employed for data analytics role.
76	171CS7E15	Image Processing		✓		Students are able to acquire technical skills related to image processing by using various tools related to computer vision.
77	171CS7E16	Cyber Laws		✓		The students are able to demonstrate Technical skills by Modelling of cyber laws and security.
78	171CS7E17	Middleware Technologies		✓		Students are able to acquire technical skills related to transfer information from one program to one or more other programs in a distributed environment
79	171CS7E18	Artificial Intelligence and Machine Learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.

80	171CS7E19	Information Retrieval Systems		✓		Students are able to acquire technical skills related to information retrieval systems by using various retrieving techniques used in real time environment.
81	171CS7E20	Mobile Computing				
82	171CS7L12	UML and Design Patterns Lab		✓		Students are able to demonstrate technical skill of unified modelling language and design pattern used in various software project.
83	171CS7L13	Big Data Analytics Lab	✓			Students are able to gain skills related to Big data analytics and related tool enabling them to be employed for data analytics role.
84	171CS7P01	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
85	171CS8E21	Agile Methodologies	✓			Students are able to acquire skills relates to software Process models and enabling them to acquire employed as software developer.
86	171CS8E22	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.
87	171CS8E23	Distributed Databases		✓		Students are able to demonstrate technical skills of Query Optimization, Reliability and Concurrency Control in projects.
88	171CS8E24	Distributed Systems		✓		Students are able to demonstrate technical skills of Interprocess Communication using java RMI, Distributed File Systems and analysis various distributed algorithms in projects.
89	171CS8O01	Microprocessor and Multi Core Systems		✓		Students are able to demonstrate technical skills of modern multi-core processors and its applications.
90	171CS8O02	Embedded Systems	✓			Students are able to acquire skills related to design, program and implement embedded systems and evaluate their performance enabling them to be employed for designing and manufacturing of electronic equipment with embedded systems.
91	171CS8O03	Soft Computing		✓		Students are able to acquire technical skills of Implement, evaluate and compare solutions by various soft computing approaches for finding the optimal solutions.
92	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.
93	171CS8O04	Operations Research		✓		Students are able to demonstrate technical skill to formulate and solve problems as networks and graphs.
94	171CS8O05	Optical Communications	✓			Students are able to acquire skills related to design, fabricate and evaluate the performance of optical communication systems enabling them to be

						employed for designing, manufacturing and implementation of fiber optic communication systems
95	171EE8O07	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
96	171EC8O02	Disaster Management		✓		Students are able to demonstrate technical skill of characterizing various disasters occurring in the environment and apply them in various disciplines of day to day life
97	171CS8O06	Renewable Energy sources		✓		Students are able to acquire skills related to solar, wind and bio-mass energy resources and conversion principles and techniques of various renewable resources.
98	171CS8O07	Nano Technology and its Applications		✓		Students are able to acquire technical skills by understanding the basic mathematical techniques for describing nano systems
99	171CS8P02	Project Work	✓			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		**99**	**44**	**43**	**3**	

Program Coordinator

Head of the Department

Head of the Department
Department of CSE
ADITYA ENGINEERING COLLEGE (A9

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 modeling physical phenomenon using ordinary differential equations, system of linear equations in various engineering disciplines.
3	201BS1T04	Engineering Chemistry				
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	201ES1I02	Computer Engineering Workshop		✓		Students are able to acquire skills realted to microsift office tools, basics of Machine Learning and IOT.
6	201HS1L01	Communicative English 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

7	201BS1L03	Engineering Chemistry 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	201BS2T07	Numerical Methods and 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, and complex integration.
11	201BS2T09	Applied Physics				
12	201ES2T11	Computer Organization	✓			Students are nurtured with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
13	201ES2T04	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
14	201ES2T07	Data Structures through C	✓			Students are able to aquire technicaacquirels related to demonstrate fundemonstratinggorithmic problems that enable them to be employed as software developers

15	201BS2L04	Applied Physics Lab				
16	201ES2L06	Data Structures through C Lab	✓			Students are able to acquire programming skills related to OOP's, and Basic OOPs structure like stacks, queues, linked lists, trees and tries which enable them to employed as a product developer.
17	201ES2L14	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
18	201MC2L01	Professional Communication Skills Lab			✓	Students are able to apply the knowledge of economic and financial management enabling them to become an entrepreneur in any domain of their choice.
19	201MC2T02	Constitution of India				

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
20	191BS3T14	Discrete Mathematics		✓		Students are able to demonstrate problem-solving skills by learning Mathematical logic, Inference Theory, and graph Theory.
21	191ES3T13	Digital Logic Design				
22	191HS3T02	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.
23	191CS3T01	Software Engineering	✓			Students are able to aquire skills relates to software engineering, project estimation and management enabling them to aquire employed as software developer.
24	191CS3T02	Object Oriented Programming through Java	✓			Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using Java, enabling them to be employed as software developers.
25	191CS3T03	Advanced Data Structures	✓			

26	191CS3L01	Object Oriented Programming through Java Lab	✓			Students are able to aquire technical skills related to demonstrate advanced algorithmic problems enabling them to be employed as software developers.
27	191CS3L02	Advanced Data Structures Lab	✓			Students are able to aquire technical skills related to demonstrate advanced algorithmic problems enabling them to be employed as software developers.
28	191MC3A03	Employability Skills - I	✓			This subject helps the students to accquire 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
29	191MC3A04	Essence of Indian Traditional Knowledge				

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	191BS4T18	Probability and Statistics		✓		Students are able to demonstrate problem solving skills by learning about random variables , probability distributions, sampling theory , test of hypothesis , correlation and regression.
31	191IT4T01	Theory of Computation				
32	191CS4T05	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
33	191CS4T06	Design and Analysis of Algorithms		✓		Students are able to demonstrate problem solving skills by apply knowledge of computing and mathematics to algorithm design.
34	191ES4T15	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
35	191CS4T07	Computer Organization	✓			Students are nurtured with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
36	191CS4L03	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
37	191ES4L17	Internet of Things Lab	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.

38	191MC4A05	Employability Skills - II	✓			This subject helps the students to accquire 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				

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
40	171IT5T02	Computer Networks				
41	171CS5T12	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
42	171IT5T03	Unix and Shell Programming				
43	171CS5T14	Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input &output and memory operations which enables them to be employed for Hardware core side job opportunities.
44	171IT5E01	Artificial Intelligence		✓		Students are able to demonstrate technical skill of searching techniques used in AI, Expert systems, Knowledge representation and fuzzy logic.
45	171CS5E02	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.
46	171CS5E03	Computer Graphics	✓			Students are able to aquire related 2D,3D graphical representations and basic graphic programming using openGL enabling them to employed as graphic designer.
47	171CS5E04	Software Testing Methodologies		✓		Students are able to acquire technical skills by applying different software testing techniques and statergies.

48	171HS5T06	Employability Skills – III	✓			This subject helps the students to accquire 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	171IT5L01	Operating Systems and Computer Networks Lab	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input &output and memory operations which enables them to be employed for Hardware core side job opportunities.
50	171CS5L06	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
51	171CS5L07	Software Testing Lab		✓		Students are able to acquire technical skills by applying different software testing techniques and statergies.
52	171IT5L02	Unix and Shell Programming Lab		✓		Students are able to demonstrate programming solving skills by Identifying and using UNIX utilities to create and manage simple file processing operations.
53	171IT5S01	MOOCs – I		✓		Students are able to acquire technical skills by choosing an online course oftheir choice which is not related to academics.

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
54	171IT6T04	Object Oriented Analysis and Design Using UML		✓		Students are able to acquire technical skills to develop different UML diagrams like usecase, class, sequence, collaboration, component and deployment diagrams
55	171CS6T16	Web Technologies	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
56	171CS6T17	Data Warehousing and Data Mining	✓			Students are able to acquire technical skills to synthesize and preprocess the raw data, and apply different classifiarion and prediction algorithms which enable them to be employed as Data Analyst.
57	171CS6E05	Software Quality Assurance		✓		Students are able to demonstratetechnical skills by Understanding the fundamental concepts of software automation.
58	171IT6E02	Neural Networks		✓		Students are able to demonstrate technical skill of Pereptron, NN's and Deep Neural Network's.
59	171CS6E08	Social Networks and Semantic Web		✓		Students are able to acquire technical skills with the fundamentals of Semantic Web technologies.

60	171IT6E03	Design and Analysis of Algorithms	✓			Sudents are able to acquire technical skills to work with different algorithemic strategies like greedy, dynamics programming, back tracking which enable them to be employed as a product developer.
61	171IT6E04	Advanced Computer Networks		✓		Students are able to demonstrate technical skills of different routing techniques, MANET's and protocols applied at different levels
62	171CS6E10	Parallel Computing		✓		Students are able to understand techniques of parallel algorithm development and programming on different parallel platform.
63	171IT6E05	Multimedia Programming		✓		Students are able to acquire technical skills on media characteristics, compression standards, multimedia representation, data formats, multimedia technology development.
64	171CS6E12	E – Commerce		✓		Students are able to Understand the basic concepts and technologies used in the field of management.
65	171HS6T07	Employability Skills – IV	✓			This subject helps the students to accquire 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 competence.
66	171IT6L03	Unified Modeling Language Lab		✓		Students are able to acquire technical skills to develop different UML diagrams like usecase, class, sequence, collaboration, component and deployment diagrams

67	171CS6L10	Data Warehousing and Data Mining Lab	✓			Students are able to acquire technical skills to synthesize and preprocess the raw data, and apply different classifiarion and prediction algorithms which enable them to be employed as Data Analyst.
68	171CS6L11	Web Technologies Lab	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
69	171IT6S02	MOOCs – II		✓		Students are able to acquire technical skills by choosing an online course oftheir choice which is not related to acedemics

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
70	171CS7T18	Cryptography and Network Security		✓		Students are able to demonstrate technical skill of encryption, decryption and different types of attacks in Cryptography and Network Security .
71	171IT7T05	Big Data Analytics	✓			Students are able to acquire technical skills to work with data on cloud using PIG and HIVE tools which enable them to be employed as Big Data Analyst.
72	171CS7T20	Cloud Computing	✓			Students are able to acquire skills related to Cloud computing and distributed computing enabling them to be employed for cloud services sector.
73	171IT7T06	Mobile Computing		✓		Students are able to demonstrate technical skill of mobile computing nomenclature to describe and analyze existing mobile computing frameworks and architectures
74	171CS7E13	Software Project Management			✓	Students are able to apply the knowledge of Software Project Management skills and enabling them to become an entrepreneur in any domain of their choice.
75	171IT7E06	Machine Learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.
76	171CS7E15	Image Processing		✓		Students are able to acquire technical skills related to image preprocessing, image segmentation, classification algorithms
77	171CS7E16	Cyber Laws		✓		Students are able to acquire skills realted to cybercrimes, laws and acts

						to protect data from cyber thefts
78	171CS7E19	Information Retrieval Systems		✓		Students are able to acquire technical skills related to information retrieval systems by using various retreiving techniques used in real time enviroment.
79	171IT7E07	Human Computer Interaction		✓		Students are able to acquire technocal skills in identifying the design issues and constraints while dsigning the GUI for an application.
80	171IT7E08	Distributed Systems		✓		Students are able to acquire skills to understand the protocols and architectures needed to establish a distributed network
81	171IT7E09	Decision Support System		✓		Students are able to acquire skills realted to classifcationand regression techniques
82	171IT7L04	Mobile Computing Lab	✓			Students are able to acquire technical skills which helps them in developing mobile applications using J2EE and android which enable them to be employed as Mobile Application Developer.
83	171CS7L13	Big Data Analytics Lab	✓			Students are able to acquire technical skills to work with data on cloud using PIG and HIVE tools which enable them to be employed as Big Data Analyst.
84	171IT7P01	Industry Oriented (Internship) Minor Project	✓			students will be able to demonstrate problem identification, analysis, design solutions or applications in eletronics and communication domain through the aquired 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
85	171CS8E21	Agile Methodologies	✓			Students are able to aquire skills relates to software Process models and enabling them to aquire employed as software developer.
86	171CS8E22	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.
87	171CS8E23	Distributed Databases				Students are able to demonstrate technical skills of Query Optimization, Reliability and Concurrency Control in projects.
88	171IT8E10	Pattern Recognition		✓		Students are able ato acquire technical skills to design systems and algorithms for pattern recognition, with focus on sequences of patterns that are analyzed using, e.g., hidden Markov models (HMM)
89	171IT8O01	Management Information System		✓		Students are able to demonstrate technical skill to demonstrate System Analysis, Design and decission making in a businees environment
90	171CS8O01	Microprocessor and Multi Core Systems		✓		Students are able to demonstrate technical skills of modern multi-core processors and its applications.

91	171CS8O02	Embedded Systems		✓		Students are able to demonstrate technical skills of Simulators, emulators, Debuggers, Embedded Product Development life cycle and Real Time Operating System.
92	171IT8O02	Computer Vision		✓		
93	171EE8O05	Robotics		✓		Students are able to acquire skills related to the measurement of linear and angular measuring instuments, working of measuring instruments and control systems.
94	171CS8O04	Operations Research		✓		Students are able to demonstrate technical skill to formulate and solve problems as networks and graphs.
95	171CS8O05	Optical Communications	✓			Students are able to acquire skills related to design, fabricate and evaluate the performance of optical communication systems enabling them to be employed for designing, manufacturing and implementation of fiber optic communication systems
96	171EE8O07	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
97	171EC8O02	Disaster Management				Students are able to demonstrate technical skill of characterizing various disasters occuring in the environment and apply them in various disciplines of day to day life
98	171CS8O07	Nano Technology and its Applications		✓		Students are able to acquire technical skills by understanding the basic mathematical techniques for describing nano systems

99	171IT8P02	Major Project	✓			Employability : students will be able to demonstrate problem identification, analysis, design solutions or applications in eletronics and communication domain through the aquired technical, cognitive,communication and creative skills to address societal needs.
TOTAL		**99**	**43**	**44**	**5**	

Program coordinator

Head of the Department

Head of the Department
Department of IT
Aditya Engineering College

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 partial differential equations, vector differentiation , vector integration and their applications in various engineering disciplines.
3	201BS1T02	Engineering Physics				
4	201ES1T03	Essential Electrical and Electronics Engineering		✓		This subject helps the student to demonstrate their technical skills by analyzing various electrical networks, knowing the operation of Dc generators, analyzing the performance of single phase transformers and 3-phase induction motors. This will create skills among student so that wherever they will find these types of machine their deal with their complexities.
5	201ES1T05	Engineering Graphics		✓		This subject helps the student to demonstrate technical skills as they have knowledge about engineering drawing and AutoCAD software for orthographic projections and isometric projection.
6	201HS1L01	Communicative English 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.
7	201BS1L01	Engineering Physics Lab				
8	201ES1L03	Essential Electrical and Electronics Engineering Lab		✓		This subject helps the student to demonstrate technical skills as they are able to analyze electrical networks using network theorems, performance of AC and DC Machines, diode characteristics and its application and simulation of diode and transistor.
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	201BS2T08	Chemistry of Materials				
12	201ES2T06	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.
13	201ES2T08	Programming for Problem Solving Using C	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.
14	201ES2L07	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.
15	201ES2L12	Computer Aided Drafting Lab		✓		Students are able to acquire skills related to drafting of mechanical components/assemblies through AUTOCAD software enabling them to be employed as a design engineer.
16	201HS2L02	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.
17	201BS2L05	Engineering Chemistry Lab				
18	201ES2L10	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.
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	191PT3T01	Petroleum Exploration		✓		Students are able to demonstrate technical skill of characterizing different exploration methods, modeling and analysis of structures.
21	191PT3T02	Geology and Sedimentology	✓			Students are able to acquire skills related to various aspects of different structures, traps, stratigraphy's enabling them to be employed as petroleum and sedimentary geologists.
22	191PT3T03	Chemical Process Calculations		✓		Students are able to demonstrate Problem solving skills to analyze stylometric relations of chemicals and performance characteristics of it.
23	191PT3T04	Mechanical and Materials Science and Engineering	✓			Students are able to acquire skills related to various aspects of material design enabling them to be employed as material designers
24	191PT3L01	Mechanical and Material Science Lab		✓		Students are able to acquire skills related to various aspects of material design enabling them to be employed as material designers
25	191PT3L02	Geology Lab	✓			Students are able to acquire skills related to various aspects of different geological structures enabling them to be employed as geologists.
26	191BS3T15	Numerical Methods and Integral Transforms		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals ,Fourier Transforms and Laplace Transforms and their applications.
27	191MC3A03	Employability Skills – I	✓			Students are able 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.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
28	191PT4T06	Momentum Transfer		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using fluid flow behaviour and designing of fluid flow in various engineering disciplines.
29	191PT4T07	Petroleum 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.
30	191PT4T05	Process Heat Transfer		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using heat flow systems, study of temperature behaviour in various engineering disciplines.
31	191HS3T02	Managerial Economics and Financial Analysis			✓	Students are able to demonstrate Competency in gaining the managerial skill set and enabling them to be an entrepreneur
32	191HS4T03	Management Science			✓	Students are able to demonstrate competency in the domain of business management enabling them to become an entrepreneur.
33	191ES4T15	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
34	191MC4A05	Employability Skills – II	✓			Students are able 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.
35	191BS4T19	Complex Variables and Statistical Methods		✓		Students are able to demonstrate problem solving skills by analytical properties of functions of complex variables and their applications and also about random variables, sampling theory, test of hypothesis.
36	191PT4L03	Process Heat Transfer Lab		✓		Students are able to acquire skills related to various aspects of heat flow systems, study of temperature behaviour in petroleum systems enabling them to be employed as production engineers.
37	191PT4L04	Momentum Transfer Lab		✓		Students are able to acquire skills related to various aspects of heat flow systems, study of temperature behaviour in petroleum systems enabling them to be employed as production engineers.

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
38	171PT5T06	Process Dynamics and Control		✓		Students are able to demonstrate technical skill of characterizing different controllers, modelling and analysis of control valves.
39	171PT5T07	Petroleum Exploration		✓		Students are able to demonstrate technical skill of characterizing different exploration methods, modeling and analysis of structures.
40	171PT5T08	Process Instrumentation		✓		Students are able to demonstrate technical skill of characterizing different types of instruments, modelling and analysis of instruments.
41	171PT5T09	Well Logging and Formation Evaluation		✓		Students are able to demonstrate technical skill of characterizing different logging tools, modelling and analysis of formations.
42	171PT5T10	Drilling Technology		✓		Students are able to demonstrate technical skill of characterizing different drilling methods, modelling and analysis of well bore.
43	171PT5E01	Well Engineering and Design		✓		Students are able to demonstrate technical skill of characterizing different well designs, modelling and analysis of well bore.
44	171PT5E02	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.
45	171PT5E03	Pipeline Engineering		✓		Students are able to demonstrate technical skill of characterizing different material behaviours , modelling and analysis of pipeline operations.
46	171PT5L03	Instrumentation, Process Dynamics and Control Lab		✓		Students are able to acquire skills related to various aspects of different controllers behaviour enabling them to be employed as production engineers.
47	171PT5L04	Drilling Fluids Lab		✓		Students are able to acquire skills related to different aspects of various mud behaviour enabling them to be employed as mud engineers.
48	171HS5T06	Employability Skills - III	✓			Students are able 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	171PT5S01	MOOCs – I	✓			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
50	171PT6T11	Well Completions, Testing and Services		✓		Students are able to demonstrate technical skill of characterizing different wells , modelling and analysis of completions.
51	171PT6T12	Petroleum Production Engineering		✓		Students are able to demonstrate technical skill of characterizing different fluid flow properties , modelling and analysis of production.
52	171PT6T13	Petroleum Reservoir Engineering - I		✓		Students are able to demonstrate technical skill of characterizing different rock properties , modelling and analysis of reservoir.
53	171PT6T14	Surface Production Operations		✓		Students are able to demonstrate technical skill of characterizing different separators , modelling and analysis of production.
54	171PT6E04	Petroleum Refining and Petrochemical Engineering		✓		Students are able to demonstrate technical skill of characterizing different heaters, treaters, distillation columns , modelling and analysis of refinery.
55	171PT6E05	Storage and Transportation of Crude Oil and 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
56	171PT6E06	Reservoir Stimulation		✓		Students are able to acquire skills related to design, synthesize and evaluate the performance of reservoir rocks enabling them to be employed for designing and evaluation of formation for treatment .
57	171PT6E07	Natural Gas Hydrates		✓		Students are able to demonstrate technical skill of characterizing different feeds from well , modelling and analysis of hydrates.
58	171PT6E08	Natural Gas Engineering		✓		Students are able to demonstrate technical skill of characterizing different gas wells , modelling and analysis of fluid behaviours.
59	171PT6E09	Horizontal Well Technology	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of horizontal wells enabling them to be employed for designing and evaluation of well integrity.
60	171PT6L05	Petroleum Analysis Lab	✓			Students are able to acquire skills related to various aspects of different crude behaviour enabling them to be employed as refining engineers.
61	171PT6L06	Petroleum Reservoir Simulation Lab		✓		Students are able to acquire skills related to design, synthesize and evaluate the performance of reservoir rocks enabling them to be employed for designing and evaluation of fluid behaviour in cores.
62	171HS6T07	Employability skills - IV	✓			Students are able 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.

63	171PT5S02	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
64	171PT7T15	Integrated Asset Management and Petroleum Economics			✓	Students are able to demonstrate Competency in the domain of Integrated asset management enabling them to become an entrepreneur.
65	171PT7T16	Petroleum Reservoir Engineering - II		✓		Students are able to demonstrate technical skill of characterizing different well fluid behaviours , modelling and analysis of reservoir for flow test.
66	171PT7T17	IOR and EOR Techniques		✓		Students are able to demonstrate technical skill of characterizing different crude oils , modelling and analysis of reservoir for recovery.
67	171PT7T18	Oil and Gas Processing Plant Design		✓		Students are able to demonstrate technical skill of characterizing different separators, compressors , pumps , modelling and analysis of production.
68	171PT7E10	Coal Bed Methane	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of CBM wells enabling them to be employed for designing and evaluation well for methane extraction.
69	171PT7E11	Offshore Engineering				
70	171PT7E12	Petroleum Corrosion Technology				
71	171PT7E13	Shale Gas Reservoir Engineering				
72	171PT7E14	Subsea Engineering				
73	171PT7E15	Reservoir Modeling and Simulation	✓			Students are able to demonstrate problem solving skills by modelling physical phenomenon using Practical Reservoir Modelling & Simulation (MATLAB Based) in various engineering disciplines.
74	171PT7L07	Petroleum Equipment Design and Simulation Lab		✓		Students are able to acquire skills related to design, synthesize and evaluate the performance of process equipment's enabling them to be employed for designing and evaluation of fluid behaviour in production.
75	171PT7L08	Petroleum Reservoir Engineering Lab		✓		Students are able to acquire skills related to design, synthesize and evaluate the performance of process equipment's enabling them to be employed for designing and evaluation of fluid behaviour in production.

76	171HS7A04	Managerial Economics and Financial Analysis			✓	Students are able to demonstrate Competency in gaining the managerial skill set and enabling them to be an entrepreneur
77	171PT7P01	Industry Oriented (Internship) Minor Project	✓			students will be able to demonstrate problem identification, analysis, design solutions or applications in petroleum technology 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
78	171PT8E16	HSE and FE 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.
79	171PT8E17	Reliability and Risk Management in Petroleum Operations			✓	Students are able to demonstrate Competency in the domain of Reliability and Risk Management in Petroleum Operations enabling them to become an entrepreneur.
80	171PT8E18	Deep Sea Production Systems		✓		Students are able to demonstrate technical skill of characterizing different subsea equipment's , modelling and analysis of production.
81	171PT8O01	Green Technologies		✓		Students are able to demonstrate technical skill of characterizing different energy resources , modelling and analysis of energy sector.
82	171PT8O02	Non-Conventional Sources of Energy		✓		Students are able to demonstrate technical skill of characterizing different Non-Conventional Sources , modelling and analysis of energy sector.
83	171PT8O03	Alternative Energy Sources for Automobiles		✓		Students are able to demonstrate technical skill of characterizing different Alternative Energy Sources , modelling and analysis of Automobiles.
84	171PT8O04	Waste Water Treatment		✓		Students are able to demonstrate technical skill of characterizing different waste water materials , modelling and analysis of treatments.
85	171PT8O05	Computational Fluid Dynamics		✓		Students are able to demonstrate technical skill of characterizing different fluid phases , modelling and analysis of fluid dynamics.
86	171PT8O06	Process Intensification in Petroleum Industry		✓		Students are able to demonstrate technical skill of characterizing different intensifications , modelling and analysis of process in Petroleum Industry.
87	171EC8O02	Disaster Management	✓			Students are able to acquire skills related to interpretation of various disasters in the environment and prepares one to prevent, face and combat them enabling them to be employed as managers in various industries
88	171PT8P02	Major Project	✓			Students will be able to demonstrate problem identification, analysis, design solutions or applications petroleum technology domain through the acquired technical, cognitive, communication and creative skills to address societal needs.
	Total		22	50	4	

Head of the Department
Department of Petroleum Technology
Aditya Engineering College
SURAMPALEM-533 437

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	201BS1T02	Engineering Physics				
4	201ES1T04	Principles of Agronomy and Soil Science	✓			Students are able to acquire skills related to crop management practices adopted for increasing the crop productivity enabling them to be employed as agriculture field officer.
5	201ES1T05	Engineering Graphics		✓		This subject helps the student to demonstrate technical skills as they have knowledge about engineering drawing and AutoCAD software for orthographic projections and isometric projection.
6	201HS1L01	Communicative English 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.
7	201BS1L01	Engineering Physics Lab	✓			
8	201ES1L04	Soil Science and Agronomy Field Lab		✓		Students are able to demonstrate technical skill of crop management practices adopted for increasing the crop productivity.

9	201MC1T01	Environmental Science				
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.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
11	201BS2T08	Chemistry of Materials				
12	201ES2T06	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.
13	201ES2T08	Programming for Problem Solving Using C	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.
14	201ES2L07	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.
15	201ES2L12	Computer Aided Drafting Lab		✓		Students are able to acquire skills related to drafting of mechanical components/assemblies through AUTOCAD software enabling them to be employed as a design engineer.
16	201HS2L02	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.
17	201BS2L05	Engineering Chemistry Lab				
18	201ES2L10	Programming for Problem Solving Using C	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.

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	191BS3T11	Integral Transforms and Applications of Partial Differential Equations	✓			Students are able to demonstrate problem solving skills by modelling physical phenomenon using partial differential equations and by learning Fourier Transforms and Laplace Transforms and their applications
21	191ES3T10	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
22	191HS3T02	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.
23	191AG3T01	Principles of Agronomy and Soil Science	✓			Students are able to acquire skills related to crop management practices adopted for increasing the crop productivity enabling them to be employed as agriculture field officer.
24	191AG3T02	Fluid Mechanics and Open Channel Hydraulics	✓			Students are able to acquire skills related to interpretation of fluid properties and their influence on fluid motion, Bernoulli's equation and its applications enabling them to be employed for Hydraulic designing and analysis.
25	191AG3T03	Surveying and Leveling	✓			Students are able to acquire skills for solving difficulties in chain and compass survey, preparing contour plans and producing layouts enabling them to be employed in farm structure construction companies.
26	191AG3L01	Principles of Agronomy and Soil Science Lab		✓		Students are able to demonstrate technical skill of crop management practices adopted for increasing the crop productivity.

27	191AG3L02	Fluid Mechanics and Open Channel Hydraulics Lab		✓		Students are able to demonstrate technical skill of determining major and minor losses in pipes, flow behavior in open channels.
28	191AG3L03	Surveying and Leveling Lab	✓			Students are able to demonstrate technical skill of estimating the levels of existing ground and prepare contour plan, developing the plan or map showing the ground features from data obtained by surveying
29	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.
30	191MC3A04	Essence of Indian Traditional Knowledge		✓		This subject demonstrate technical skills as they were able to understand concept of Traditional knowledge and its importance, enactments related to the protection of traditional knowledge and traditional knowledge in Agriculture and Medicine.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
31	191BS4T16	Numerical Methods & Statistical Techniques		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals , probability distributions, sampling theory and test of hypothesis.
32	191AG4T04	Thermodynamics and Refrigeration System	✓			Students are able to acquire skills related to applications and performance evaluation of different refrigeration cycles, performance of 4 stroke and 2-stroke Diesel and Petrol Engines enabling them to be employed for both Farm machinery and cold storage companies
33	191AG4T05	Farm Power and Tractor Systems	✓			Students are able to acquire skills related to I.C engine systems and tractor systems enabling them to be employed in Farm tractor companies.
34	191AG4T06	Ground Water Hydrology	✓			Students are able to acquire skills related to exploration and replenishment of ground water, design, development, and construction of wells, Selection of pump for irrigation by considering performance characteristics, installation and troubleshooting enabling them to be employed in water pump companies.
35	191AG4T07	Heat and Mass Transfer	✓			Students are able to acquire skills related to interpretation of forced and free convection heat transfer mechanism, Application of LMTD and NTU for designing of heat exchangers enabling them to be employed in any food or dairy processing industries.
36	191AG4T08	Surface Water Hydrology	✓			Students are able to acquire skills related to estimating discharge volume of runoff with hydrographs and unit hydrographs, hydrological design of structures, reservoir planning with flood routing techniques enabling them to be employed in water resources management companies.

37	191AG4L04	Ground Water Hydrology Lab		✓		Students are able to demonstrate technical skills of developing suitable pumps for the field and ground water recharge structures.
38	191AG4L05	Farm Power and Tractor Systems Lab		✓		Students are able to demonstrate technical skills of periodical maintenance and troubleshooting of all systems like fuel system lubrication system, cooling system and ignition system and remedial measures for above system.
39	191AG4L06	Heat and Mass Transfer lab		✓		Students are able to demonstrate technical skill of determining thermal conductivity, convective heat transfer coefficient, and emissivity of different materials.
40	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.
41	191MC4A06	Biology for Engineers		✓		Students are able to demonstrate skills related to 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
42	171AG5T09	Theory of Structures	✓			Students are able to acquire skills related to design of beams, slabs, columns, foundations and RCC structures enabling them to be employed in any construction related companies.
43	171AG5T10	Irrigation and Drainage Engineering	✓			Students are able to acquire skills related to designing of drainage systems, irrigation canals enabling them to be employed as Irrigation engineers.
44	171AG5T11	Agricultural Process Engineering	✓			Students are able to acquire skills related to unit operations and size reduction processes, designing of mixing equipment's for powder, high and low viscosity liquids enabling them to be employed in food processing industries.
45	171AG5T12	Agricultural Extension Techniques and Business Management			✓	Students are able to demonstrate Competency in the domain of agriculture extension and business management enabling them to become an entrepreneur.
46	171AG5T13	Farm Power and Tractor Systems	✓			Students are able to acquire skills related to I.C engine systems and tractor systems enabling them to be employed in Farm tractor companies.
47	171AG5E01	Agro Industries and Bi-Product Utilization	✓			Students are able to acquire skills related to treatment techniques of waste water from agricultural/ food industry, production of by- products from agricultural and food processing wastes enabling them to be employed in any food industry.
48	171HS5E01	Managerial Economics and Financial Analysis			✓	Students are able to demonstrate Competency in gaining the managerial skill set and enabling them to be an entrepreneur

49	171AG5E02	Rural Water Supply, Sanitation and Environmental Engineering	✓			Students are able to acquire skills related to Wastewater collection system, treatment and disposal of wastewater enabling them to be employed in any industries.
50	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.
51	171AG5L02	Agricultural Process Engineering Lab		✓		Students are able to demonstrate technical skill of designing handling and processing equipment's, determining the power requirement in different types of conveyors
52	171AG5L03	Field Operation and Maintenance of Tractors Lab		✓		Students are able to demonstrate technical skill of periodical maintenance and troubleshooting of all systems like fuel system, lubrication system, cooling system and ignition system and remedial measures for above system of a tractor.
53	171AG5S01	MOOCs – I		✓		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
54	171AG6T14	Soil and Water Conservation Engineering	✓			Students are able to acquire skills related to design of various gully control structures, temporary and permanent, their designs and quantification of annual soil loss using USLE from a watershed enabling them to be employed in companies which deals with watershed management projects.
55	171AG6T15	Farm Machinery and Equipment – I	✓			Students are able to acquire skills related to design of different farm implements enabling them to employ in farm machinery companies.
56	171AG6T16	Design of Soil, Water Conservation and Farm Structures	✓			Students are able to acquire skills related to designing and execution of the structures for controlling soil erosion, water erosion and irrigation in fields enabling them to be employed as farm structure designer.
57	171AG6T17	Post Harvest Engineering for Horticulture Produce	✓			Students are able to acquire skills related to preservative techniques on fruits and vegetables, advanced packaging technology in food preservation, and preparation of fermented and unfermented beverages enabling them to be employed in food storage and food processing companies.
58	171AG6E03	GIS and Remote Sensing	✓			Students are able to acquire skills related to techniques of Remote Sensing and GIS applications for land and water resources management enabling them to be employed in GIS and remote sensing related jobs.
59	171AG6E04	Human Engineering and 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.

60	171AG6E05	Production Technology of Agricultural Machinery	✓			Students are able to acquire skills related to development of different manufacturing techniques in agricultural machinery and cutting tools enabling them to be employed in farm machinery designing companies.
61	171AG6E06	Green House / Poly House Technology	✓			Students are able to acquire skills related to development of different manufacturing techniques in agricultural machinery and cutting tools enabling them to be employed in farm machinery designing companies.
62	171AG6E07	Optimization, Operations Research and Systems Engineering		✓		Students are able to acquire analytical skills in finding optimal solutions of different models using various decision making techniques.
63	171AG6E08	Industrial Engineering and Management			✓	This subject helps the student to demonstrate competency become as the students have interactions between engineering, business, technological and environmental spheres in the modern society. This subject also understand students role as engineers and their impact to society at the national and global context which enabling them to become an entrepreneur.
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	171AG6L04	Farm Machinery Lab - I		✓		Students are able to demonstrate technical skill of determining parameters of different farm implements, calibration of seed cum fertilizer drills and sprayers.
66	171AG6L05	Soil and Water Engineering Lab		✓		Students are able to demonstrate technical skill of designing of various gully control structures, measurement of flow with current meter and water meter.
67	171AG6S02	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	171AG7T20	Dairy and Food Engineering	✓			Students are able to acquire skills related to milk and food processing unit operations, thermal treatment techniques enabling them to employed as dairy engineer.
69	171ES7T26	Mechanical Measurements and Instrumentation	✓			Students are able to acquire skills related to mechanical, electrical and electro-mechanical type pressure measuring transducers, f temperature measuring transducers, and different instruments for measuring sound, speed and motion enabling them to be employed for food or farm machinery related companies.
70	171AG7E09	Seed Processing and Storage Engineering	✓			Students are able to acquire skills related to unit operations in seed processing industry, techniques of seed drying, cleaning and plant layout planning enabling them to be employed as seed processing engineer.
71	171AG7E10	Food Processing Plant Design and Layout	✓			Students are able to acquire skills related to designing of food plant, different processing steps enabling them to be employed as Food plant design and operations sector.
72	171AG7E11	Food Packaging Technology	✓			Students are able to acquire skills related to the effect of packaging material on fruits and vegetables, different laws and regulations related to food packaging, and innovations in food packaging technologies enabling them to be employed in food packaging companies.
73	171AG7E12	Aqua Cultural Engineering	✓			Students are able to acquire skills related to designing an aqua farm and modern aquaculture farm system with aquaculture equipment enabling them to be employed as an aqua farm designer.
74	171AG7E13	Soil Dynamics in Tillage and Traction	✓			Students are able to acquire skills related to interpretation of traction mechanics, evaluation of traction device performance enabling them to be employed in any farm machinery designing companies.

75	171AG7E14	Computational Fluid Dynamics		✓		Students are able to acquire skills in analyzing the numerical methods related to fluid modelling.
76	171AG7L06	Farm Machinery Lab – II		✓		Students are able to demonstrate technical skill of determining parameters of different farm implements, calibration of seed cum fertilizer drills and sprayers.
77	171AG7L07	Dairy and Food Engineering Lab		✓		Students are able to demonstrate technical skills of analyzing heat treatment processes used in milk preservation and operations involved in milk processing.
78	171AG7P01	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
79	171AG8E17	Design of Agricultural Machinery	✓			Students are able to acquire skills related to designing of mechanical power transmission elements, farm machinery implements enabling them to be employed in farm machinery related companies.
80	171AG8O01	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.
81	171AG8O02	Industrial Pollution Control Engineering	✓			Students are able to acquire skills related to unit operations and unit processes involved in conversion of highly polluted water to potable standards, analysis and quantification of waste water treatment enabling them to employed in food industries
82	171AG8O03	Mechatronics		✓		Students are able to demonstrate technical skills to measure the load, displacement and temperature using analogue and digital sensors.
83	171AG8O04	Water Resources Systems Planning and Management	✓			Students are able to acquire skills related to dynamic programming for water resources allocation, evaluating the feasibility of water resource projects by using linear programming methods enabling them to be employed in any water resources managing companies.
84	171CS8O04	Operations Research	✓			Students are able to acquire skills related to dynamic programming for water resources allocation, evaluating the feasibility of water resource projects by using linear programming methods enabling them to be employed in any water resources managing companies.
85	171AG8O05	Image Processing Techniques		✓		Students are able to acquire technical skills related to image processing by using various tools related to computer vision.

86	171AG8P02	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		**86**	**46**	**31**	**5**	

Program Coordinator

Head of the Department

Head of the Department
Department of Agricultural Engineering
ADITYA ENGINEERING COLLEGE (A)

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	201BS1T02	Engineering Physics				
4	201ES1T04	Principles of Agronomy and Soil Science	✓			Students are able to acquire skills related to crop management practices adopted for increasing the crop productivity enabling them to be employed as agriculture field officer.
5	201ES1T05	Engineering Graphics		✓		This subject helps the student to demonstrate technical skills as they have knowledge about engineering drawing and AutoCAD software for orthographic projections and isometric projection.
6	201HS1L01	Communicative English 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.
7	201BS1L01	Engineering Physics Lab	✓			
8	201ES1L04	Soil Science and Agronomy Field Lab		✓		Students are able to demonstrate technical skill of crop management practices adopted for increasing the crop productivity.

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	201BS2T08	Chemistry of Materials				
12	201ES2T06	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.
13	201ES2T08	Programming for Problem Solving Using C	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.
14	201ES2L07	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.
15	201ES2L12	Computer Aided Drafting Lab		✓		Students are able to acquire skills related to drafting of mechanical components/assemblies through AUTOCAD software enabling them to be employed as a design engineer.
16	201HS2L02	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.
17	201BS2L05	Engineering Chemistry Lab				

18	201ES2L10	Programming for Problem Solving Using C	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.
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	191BS3T15	Numerical Methods and Integral Transforms		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals ,Fourier Transforms and Laplace Transforms and their applications
21	191ES3T10	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
22	191ES3T14	Basic Mechanical Engineering		✓		This course demonstrate technical skills to improve the knowledge of the students about the law of thermodynamics, working principles of I.C engines and explain them about fluid statics, kinematics and dynamics.
23	191MI3T01	Mining Geology		✓		This subject helps to enhance student's skills by giving them clear picture about the nature of the material, the attitude of the beds, structures caused by deformed forces, etc. Geology also helps in choosing the method of exploitation, finding the solution for the problems associated with it. Having depth knowledge in this subject students will able to explore different mineral beds under the earth.
24	191MI3T02	Mine Surveying-I		✓		This subject improve the skills of the student as it helps the student to determination of different levels and level difference and computation of areas, volumes which includes determination of capacity of reservoirs, volumes of barrow pits. This subject help the student to make a career as surveyor or asst. surveyor in the mining field.
25	191MI3T03	Development of Mineral		✓		This course demonstrate the technical skills of the student

		Deposits				by giving them knowledge about life cycle of mines, ventilation, lighting and permanent lining of underground mines. It also gives knowledge about modern techniques of shaft sinking.
26	191MI3L01	Geology Lab		✓		This subject helps the student to demonstrate their technical skills as students were able to know the properties of minerals, different faults of minerals and economic justification of minerals. This subject helps the mining students to have ample knowledge about minerals so that they can participate as an independent consultant in buying and selling of minerals.
27	191MI3L02	Basic Mechanical Engineering Lab		✓		This course helps the students to demonstrate their technical skills by making them learn the basic principles of fluid flow, measurement of pressure, discharge and velocity of fluid flow. It also help the students to have practical exposure on the performance evaluation methods of various flow measuring equipment, hydraulic turbines and pumps.
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 demonstrate technical skills as they were able to understand concept of Traditional knowledge and its importance, enactments related to the protection of traditional knowledge and traditional knowledge in Agriculture and Medicine.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	191BS4T19	Complex Variables and Statistical Methods		✓		Students are able to demonstrate problem solving skills by analytical properties of functions of complex variables and their applications and also about random variables, sampling theory, test of hypothesis.
31	191MI4T04	Mine Surveying-II		✓		This subject helps the student to improve their skills by understanding the correlation and stope survey methods and know and limitations of photogrammetry and modern survey methods.
32	191MI4T05	Surface Mining		✓		This subject demonstrate the technical skills and knowledge of students as they get to know about Opencast Mining, Ground Water control, use of drilling machines, Smooth Blasting and Pre- splitting, Mining methods and selection of high angle conveyor and In-Pit Crusher Conveyor System. This subject helps them to get placed in the surface mines as drilling & blasting expert or a surface mining engineer.
33	191MI4T06	Underground Coal Mining Technology		✓		This subject helps the student to demonstrate their technical skills as they will understand the peculiarities and limitations of metal mining, familiar with different stopping methods, design and planning of stopping methods. Students can be placed in different metal mining companies by possessing a depth knowledge in this subjects.
34	191MI4T07	Fundamentals of Rock Mechanics		✓		This subject demonstrate the technical skills of student by making them learn the basic principles of stress and strain,

						properties of rocks and their determination and also make them aware of failure theories of rock .
35	191MI4T08	Geo-statistics		✓		This subject demonstrate the technical skills to the student as they are able to understand importance of strategic minerals, grading and pricing of minerals, total reserve of minerals, Concept of IRR and NPV and financial project management.
36	191MI4L03	Rock Mechanics Lab		✓		This subject helps the students to improve their technical skills as they will understand geotechnical engineering which will provide an understanding for the assessment of Rock mass characterization based on Rock mass properties.
37	191ES4L18	Mine Surveying Lab		✓		This subject helps the student to improve their skills as they will understand different equipment and compare accuracy levels and to study several experiments and conversant with it.
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 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	171MI5T09	Under Ground Coal Mining Technology		✓		This subject helps the student to demonstrate their technical skills as they will understand the peculiarities and limitations of metal mining, familiar with different stopping methods, design and planning of stopping methods. Students can be placed in different metal mining companies by possessing a depth knowledge in this subjects.
41	171MI5T10	Mine Environment Engineering - I		✓		This subject enhance the skill of students to understand atmosphere and mine atmosphere conditions, heat and humidity levels in mines and controlling method. It also help students to know about ventilation standards planning and layout.
42	171MI5T11	Basic Geo Mechanics		✓		This subject helps the student to demonstrate technical skills as they are able to understand In-situ stress, slope stability, mine subsidence and numerical methods in rock mechanics.
43	171MI5T12	Mine Surveying - II		✓		This subject helps the student to improve their skills by understanding the correlation and stope survey methods and know and limitations of photogrammetry and modern survey methods.
44	171HS5T04	Managerial Economics and Financial Analysis		✓		This subject helps the student to acquire skills to understand managerial economic concept, Break even concept, profit & loss concept and balance sheet of an enterprise which enable them to be employed in the field of accounting and trading related jobs in the mines.

45	171MI5E01	Maintenance and Reliability Engineering		✓		This subject helps the student to demonstrate technical skills as they will able to understand various aspect of maintenance, reliability and reliability management.
46	171MI5E02	Mine Construction and Management		✓		This subject helps the student to demonstrate technical skills to understand the selection sites of mine opening, types of lining, different drivages and surface layouts of different mines.
47	171MI5E03	Industrial Management and Labor Relations		✓		This subject helps the students to demonstrate technical skills as they will able to understand project management techniques and labour relations and labour welfare activities.
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	171MI5L03	Rock Mechanics Lab		✓		This subject helps the students to improve their technical skills as they will understand geotechnical engineering which will provide an understanding for the assessment of Rock mass characterization based on Rock mass properties
50	171MI5S01	MOOCs-I		✓		Students are able to acquire technical skills by choosing an online course of their choice which is not related to academics
51	171MI5L04	Mine Surveying Lab		✓		This subject helps the student to improve their skills as they will understand different equipment and compare accuracy levels and to study several experiments and conversant with it.

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
52	171MI6T13	Under Ground Metal Mining Technology		✓		This subject helps the student to demonstrate their technical skills as they will understand the peculiarities and limitations of metal mining, familiar with different stopping methods, design and planning of stopping methods. Students can be placed in different metal mining companies by possessing a depth knowledge in this subjects.
53	171MI6T14	Mineral Processing Technology		✓		This subject help the students to enhance the technical skills of mining engineering students as they will know different mineral processing techniques and also they will get to know about different type of fuel technology. This subject helps the mining student to get placed in different process related plants.
54	171MI6T15	Mine Environment Engineering - II		✓		This subject helps the student to demonstrate their problem solving skills of the students as they will understand the process of spontaneous heating, fires, explosion, inundation and adverse effects, rescue and recovery operation and standards of lighting arrangement.
55	171MI6T16	Mining Machinery		✓		This subject demonstrate technical skills as they will aware of winding engines and other winding accessories, various coal face machinery, they will also get to understand design and construction details of excavating & transporting equipment's used in surface mines
56	171MI6E04	Advanced Geo Mechanics		✓		This subject demonstrate technical skills as student able to understand the in extensometers and bore hole cameras, underground support system and modern instruments of Hydroelectric projects and tunnels.
57	171MI6E07	Advance Surveying Technology		✓		This subject demonstrate technical skills as students able to understand line measurement and triangulation work, hydrographic surveying, principles of photogrammetric, astronomical observations and modern instruments of surveying total station and GPS.

58	171MI6E08	Mine Subsidence Engineering		✓		This subject demonstrate technical skills as students able to understand the theories of mine subsidence and factors affecting it, methods of surface subsidence prediction, mining activities effect and time influence and impact on structure and influence of item on subsidence.
59	171MI6E09	Rock Fragmentation Engineering		✓		This subject demonstrate technical skills of the students by making them know the estimation of rock mass strength, its behaviour during excavation, types of drilling and blasting methods depend on the rock mass characterization.
60	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.
61	171MI6L05	Mineral Processing Technology Lab		✓		Mineral Processing lab helps the students to demonstrate technical skills by giving them hands-on experience to the various laboratory techniques and procedures of mineral processing such as sampling, screening, crushing , grinding, etc which helps them to get placed in different process industry.
62	171MI6L06	Environmental Engineering Lab		✓		This subject demonstrate students to improve technical skills as students will familiar with detection of different gases using deferent methods detectors and multi gas detector, to find flammable index of coal dust and understand the rescue and recovery operations using different rescue apparatus.
63	171MI6S02	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
64	171MI7T17	Mine Economics		✓		This subject helps the student to demonstrate technical skills as they are able to understand the estimation and valuation of mineral deposits and they will possess knowledge about project appraisal, finance and accounting.
65	171MI7T18	Mine Health and Safety Engineering		✓		This subject demonstrates the technical skills of different aspects of mine health and safety related problems also it create awareness of the hazardous effect of mining in mining workers health.
66	171MI7T19	Mine Legislation and General Safety		✓		This subject is vital and important subject of mining as it demonstrate the technical skills by provides an insight to various laws, rules and Acts related to Mines Safety and mining legislation. This subject will help the students to qualify different DGMS certification exam of Mines Manager.
67	171MI7E11	Planning of UGCM Project		✓		This subject helps the students to understand different methods of coal mining, advantages and disadvantages which is analysed the logical application of choice of mining methods can be evaluated in the mines.
68	171MI7E12	Planning of Surface Mining Project		✓		This subject helps the student to improve their skills as here entire phasing and sequencing of equipment planning, selection components are discussed for the optimization of the production and increasing the production cycle coupled with financial analysis.
69	171MI7E13	Mine mechanization	✓			This subject helps the student to demonstrate their technical skills as they will able to know surface and pit bottom

						layouts, various coal face machinery. It also upgrade the skills of students as they will able to know the design and construction details of excavating & transporting equipment's used in surface mines
70	171MI7E14	Advance Underground Coal Mining Technology		✓		This subject demonstrate skills that help the student to understand the extraction of thick seam mining methods, problems and issues on multiple seam mine workings, design of underground workings and extraction of locked up pillars
71	171MI7E15	Mine Blasting operation		✓		This subject demonstrate technical skills as students were able to understand blasting methods and the design related to it.
72	171MI7L07	Mine Planning and Design Lab		✓		This subject demonstrate technical skills of students by letting them know creation and utilization of data base for various studies and applications of the same for planning & design of mining projects.
73	171ES7L16	Mechanical Engineering Lab		✓		This course helps the students to demonstrate their technical skills by making them learn the basic principles of fluid flow, measurement of pressure, discharge and velocity of fluid flow. It also help the students to have practical exposure on the performance evaluation methods of various flow measuring equipment, hydraulic turbines and pumps.
74	171MI7P01	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
75	171MI8E16	Mine Systems Engineering		✓		This subject helps the student to demonstrate technical skills as they will able to formulate real-world problems involving decision making, Linear programming problem, transportation and assignment problems also they were able to solve dynamic programming &simulation techniques in real-world problems.
76	171MI8E17	Advance Surface Mining Technology		✓		This subject helps the student to demonstrate technical skills as they will able to understand modern surface mining technology, design large surface mines, simulation of mining operation, and able to prepare feasibility report.
77	171MI8E18	Advanced Underground Metal Mining Technology	✓			This subject helps the student to demonstrate technical skills as they will able to understand different advanced metal mining techniques, design underground metal mines, analyze development of feasibility report & detailed mining report, case studies.
78	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.
79	171MI8O01	Environmental Impact Assessment	✓			Students are able to acquire skills related to assessment of the impact of any developmental activity in any sector of the environment and mitigation of negative impacts in the environment enabling them to be employed in as environmental managers/engineers.
80	171MI8O02	Mine Closure and Reclamation		✓		This subject helps the student to demonstrate technical skills as they were able to understand strategies and principle of

						mine reclamation, challenges of mine planning and mine closure plan, handling of waste dumps and closure risk assessment.
81	171MI8O03	Fundamentals of Communication		✓		This subject helps the student to demonstrate technical skills as they were able to understand types of signal and its relation, concepts of continuous wave modulation, concepts of digital modulation techniques and different advanced communication networks.
82	171MI8O04	Remote Sensing and GIS		✓		This subject helps the student to demonstrate technical skills as they were able to understand elements of photogrammetry, concept of remote sensing and false colour composite, principal components and image classification.
83	171MI8O05	Quantitative Decision Making		✓		This subject helps the student to demonstrate technical skills as they were able to understand data using histograms, scatter diagrams and summary statistics, models of decision making spreadsheet simulation models.
84	171MI8P02	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		**84**	**14**	**65**	**1**	

Program Coordinator

Head of the Department

Head of the Dept.
DEPARTMENT OF MINING ENGINEERING
ADITYA ENGINEERING COLLEGE (A9)

PROGRAM STRUCTURE
I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	192TE1T01	Advanced Fluid Mechanics		✓		Students are able to acquire skills in analyzing various fluid flow problems using differential equations of fluid mechanics
2	192TE1T02	Computational Fluid Dynamics	✓			Students are able to demonstrate technical skills related to understand the basics of computational fluid dynamics and enabling them to be employed as Computational fluid dynamics engineer.
3	192TE1E01	Advanced IC Engines, Electric and Hybrid vehicles	✓			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.
4	192TE1E02	Gas Dynamics	✓			Students are able to acquire skills in analyzing the behavior of isentropic flow of ideal gases and enabling them to be employed in thermal power plants.
5	192TE1E03	Cryogenic Engineering	✓			Students are able to acquire skills related to the technical knowledge of cryogenic fluids, purification systems and cryogenic refrigeration systems. Enabling them to be employed in refrigeration industries.
6	192TE1E04	Advanced Thermodynamics	✓			Students are able to acquire skills related to various thermodynamic systems and power cycles and enabling them to be employed as Thermodynamic engineer.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
7	192TE1E05	Gas Turbines		✓		Students are able to acquire skills related to performance characteristics and applications of gas turbines.
8	192TE1E06	Alternative Fuel Technologies				Students are able to acquire skills in analyzing potential alternative liquid and potential gaseous fuels.
9	192TE1E07	Energy Conservation and Management	✓			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.
10	192TE1E08	Theory and Technology of Fuel Cells	✓			Students are able to acquire skills related to the fuel cells and its characteristics, fuel processing and its availability and enabling them to be employed in solar energy-based companies
11	192HS1T01	Research Methodology and IPR		✓		Students can gain knowledge about the methods of study, observation, comparison and experiment along with different types of Intellectual property rights
12	192TE1L01	Computational Fluid Dynamics Lab-I	✓			Students are able to demonstrate technical skills related to understand the basics of computational fluid dynamics and enabling them to be employed as Computational fluid dynamics engineer.
13	19TE1L02	Thermal Engineering Lab -1	✓			Students are able to acquire skills to enhance the knowledge about IC Engines and calculating COP and enabling them to be employed in automotive industries.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
14	192MC1A01/ 192MC2A01	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
15	192MC1A02/ 192MC2A02	Disaster Management	✓			Students are able to acquire skills related to interpretation of various disasters in the environment and prepares one to prevent, face and combat them enabling them to be employed as managers in various industries
16	192MC1A03/ 192MC2A03	Sanskrit for Technical Knowledge		✓		
17	192MC1A04/ 192MC2A04	Value Education		✓		
18	192MC1A05/ 192MC2A05	Constitution of India		✓		
19	192MC1A06/ 192MC2A06	Pedagogy studies		✓		
20	192MC1A07/ 192MC2A07	Stress management by YOGA		✓		
21	192MC1A08/ 192MC2A08	Personality development through life enlightment skills		✓		

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
22	192MC1A09/ 192MC2A09	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
23	192TE2T03	Advanced Heat Transfer	✓			Students are able to acquire skills related to the conduction in steady and unsteady cases and solve 2-D steady and transient heat conduction problems and enabling them to be employed in piping design industries.
24	192TE2T04	Thermal Measurements and Process Controls	✓			Students are able to acquire skills related to the knowledge of various temperature measuring devices and enabling them to be employed in thermal power plants.
25	192TE2E09	Equipment Design for Thermal Systems	✓			Students are able to acquire skills related to the design of heat exchangers, vaporizers, evaporators enabling them to be employed in thermal power plants.
26	192TE2E10	Solar Energy Technologies	✓			Students are able to acquire skills related to the concepts about the types of solar collectors and their measuring principles and impart the knowledge of the various types of thermal energy storage methods and its applications enabling them to be employed in solar based industries.
27	192TE2E11	Advanced Power Plant Engineering	✓			Students are able to acquire skills related to performance, operational characteristics and instrumental techniques used in power plants enabling them to be employed in power plants.
28	192TE2E12	Combustion, Emissions and Environment		✓		Students are able to acquire skills related to principles and thermodynamics of combustion, emissions and pollution control.

29	192TE2E13	Jet propulsion and Rocket Engineering	✓			Students are able to acquire skills related to the knowledge of the turbojet propulsion system and the principles of jet propulsion, rocketry and nozzle theory enabling them to be employed in defense and aircraft building organizations.
30	192TE2E14	Automotive Engineering	✓			Students are able to acquire skills related to the concepts of fuel and ignition system, lubricating and cooling system, transmission and steering system enabling them to be employed in automotive industries.
31	192TE2E15	Modeling of I.C. Engines	✓			Students are able to acquire skills related to the concepts of modelling and performance of I.C. Engines enabling them to be employed in automotive industries.
32	192TE2E16	Renewable Energy Technologies				Students are able to acquire skills related to the concepts of direct and indirect energy conversion methods.
33	192TE2L03	Computational Fluid Dynamics Lab-II	✓			Students are able to demonstrate technical skills related to understand the concepts of advanced computational fluid dynamics and enabling them to be employed as Computational fluid dynamics engineer.
34	192TE2L04	Thermal Engineering Lab -II	✓			Students are able to acquire skills to enhance the knowledge about advanced IC Engines enabling them to be employed in automotive industries.
35	192TE2P01	Mini Project with Seminar	✓			Students will be able to demonstrate problem identification, analysis, design solutions or applications in thermal engineering 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
36	192TE3E17	Optimization Techniques and Applications		✓		Students are able to acquire analytical skills in finding optimal solutions of different models using various decision-making techniques.
37	192TE3E18	Design and Analysis of Experiments		✓		Students are able to acquire analytical skills related to design and analysis of experiments and applying the concepts in various disciples of engineering
38	192TE3E19	Convective Heat Transfer		✓		Students are able to acquire skills related to the basics of convective heat transfer, free and forced convection in heat transfer.
39	192TE3E20	Waste to Energy		✓		Students are able to acquire skills related to different methods of waste to energy conversion.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
40	192ST3O01	Repair & Rehabilitation of Structures	✓			Students are able to acquire skills related to deterioration of concrete structures and rehabilitation of these using advanced technologies, like preservation of monuments and other deteriorated structures enabling them to be employed as engineers in related field.
41	192ST3O02	Green Building Systems				Students are able to demonstrate technical skill of various green principles related to buildings in constructional activities
42	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.
43	192ST3O04	Basic Foundation Engineering		✓		Students are able to acquire skills related to basic concepts of foundations and their importance to various structures/buildings
44	192PD3O01	Renewable Energy Technologies	✓			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	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.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
46	192PD3O03	Energy Audit and conservation Management			✓	This course focuses on the loss and profit studies and other company maintenance actives, creates the interest among the students to have own company.
47	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
48	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.
49	192PD3O06	Composite Materials		✓		Students are able to acquire skills related to synthesis and characterization of various types of composite materials
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	192ES3O02	Digital System Design	✓			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.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
52	192ES3O03	Programming Languages for Embedded Systems	✓			Students are able to acquire skills related to design, and developed programs with C and C++ enabling them to be employed for designing and manufacturing of Embedded systems.
53	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
54	192VD3O01	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 utilization of ICs.
55	192VD3O02	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
56	192VD3O03	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

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
57	192CS3O01	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
58	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.
59	192CS3O03	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
60	192CS3O04	Machine Learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.
61	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
62	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.
63	192PE3O01	Introduction to Petroleum Engineering		✓		Students are able to demonstrate technical skill of characterizing different streams, modelling and analysis of process in Petroleum Industry.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
64	192PE3O02	Process Intensification		✓		Students are able to demonstrate technical skill of characterizing different intensifications, modelling and analysis of process in Petroleum Industry.
65	192PE3O03	Fundamentals of Liquefied Natural Gas	✓			Students are able to acquire skills related to various aspects of different crude behavior enabling them to be employed as process and transport engineers.
66	192PE3O04	Subsea Engineering				Students are able to demonstrate technical skill of characterizing different subsea structures , modelling and analysis of production.
67	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.
68	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.
69	192TE3P02	Dissertation/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
70		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		**70**	**43**	**20**	**3**	

Program Coordinator

Head of the Department

Head of the Department
Department of Mechanical Engineering
Aditya Engineering College (A)
SURAMPALEM-533 437

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	192PD1T01	Electrical Machine Modeling and Analysis	✓			Students are able to acquire skills related to fundamental knowledge on various analytical tools for electrical engineering machines simulation and enabling them to be employed in areas of computer aided design of electrical components.
2	192PD1T02	Analysis of Power Electronic Converters	✓			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.
3	192HS1T01	Research Methodology and IPR		✓		Students can gain knowledge about the methods of study, observation, comparison and experiment along with different types of Intellectual property rights
4	192PD1L01	Power Electronics Simulation 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.
5	192PD1L02	Power Converters 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.
6	192PD1E01	Modern Control Theory		✓		This subject ensures that the students develop strategic methods to improving productivity and enhancing the best practices of the company.
7	192PD1E02	Power Quality and Custom Power Devices	✓			Students are able to acquire skills related to high-quality power efficiency that enables them to et employed in industries focusing in saving money on electricity bill and carbon footprint.
8	192PD1E03	Programmable Logic Controllers & 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.

9	192PD1E04	Artificial Intelligence Techniques	✓			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.
10	192PD1E05	Renewable Energy Technologies	✓			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.
11	192PD1E06	HVDC Transmission and Flexible AC Transmission 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.

I / II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
12	19MC1A01 19MC2A01	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	19MC1A02 19MC2A02	Disaster Management				
14	19MC1A03 19MC2A03	Sanskrit for Technical Knowledge				
15	19MC1A04 19MC2A04	Value Education				
16	19MC1A05 19MC2A05	Constitution of India				
17	19MC1A06 19MC2A06	Pedagogy Studies				
18	19MC1A07 19MC2A07	Stress Management by Yoga				
19	19MC1A08 19MC2A08	Personality Development through Life Enlightenment Skills				
20	19MC1A09 19MC2A09	Soft Skills		✓		The students are able to demonstrate Business Communication skills to analze 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	192PD2T03	Switched Mode Power Conversion	✓			Students are able to acquire skills related to fundamental knowledge on SMPS working and operations and enabling them to be employed in areas of inverters, charging, etc.
22	192PD2T04	Power Electronic Control of Electrical 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.
23	192PD2L03	Electric Drives Simulation 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.
24	192PD2L04	Electric Drives 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.
25	192PD2P01	Mini Project with Seminar				
26	192PD2E07	Control & Integration of Renewable Energy 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.
27	192PD2E08	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.
28	192PD2E09	Digital Control Systems		✓		This subject ensures that the students develop strategic methods to improving productivity and enhancing the best practices of the company.
29	192PD2E10	Advanced 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 analysed and deciphered by complex data processing techniques.

30	192PD2E11	Applications of Power Converters	✓			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.
31	192PD2E12	Microcontrollers		✓		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.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
32	192PD3P02	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.
33	192PD3E13	Digital Signal Processing Controlled Drives	✓			Students are able to acquire skills related to analysis of signals enabling them to be employed for designing and manufacturing of electronic/ communication equipment.
34	192PD3E14	Smart Grid Technologies	✓			Students are able to acquire skills related to smart grid technologies and its challenges imposed by the growth in non-dispatchable renewable generation on electric grids that enables them to get employed in power company.
35	192PD3E15	Modeling & Simulation of Power Electronic Systems	✓			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.
36	19ST3O01	Repair and Rehabilitation of Structures				
37	19ST3O02	Green Building Systems		✓		Students are able to demonstrate technical skill of various green principles related to buildings in constructional activities
38	19ST3O03	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.
39	19ST3O04	Basic Foundation Engineering		✓		Students are able to acquire skills related to basic concepts of foundations and their importance to various structures/buildings
40	19STE3O01	Fuels and Combustion	✓			Students are able to acquire skills in analyzing various fuels and the effect of combustion of fuels on environment enabling them to be employed in automotive, aerospace sectors.

41	19STE3O02	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.
42	19STE3O03	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.
43	19STE3O04	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
44	19STE3O05	Digital System Design	✓			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.
45	19ES3O01	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
46	19ES3O02	Digital System Design	✓			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.
47	19ES3O03	Programming Languages for Embedded Systems	✓			Students are able to acquire skills related to design, and developed programs with C and C++ enabling them to be employed for designing and manufacturing of Embedded systems.
48	19ES3O04	Sensors and Actuators				
49	19VD3O01	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 utilization of ICs.
50	19VD3O02	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
51	19VD3O03	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.
52	19CS3O01	Python Programming (CSE)	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.

53	19CS3O02	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.
54	19CS3O03	Internet of Things	✓			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.
55	19CS3O04	Machine Learning	✓			Students are able to gain skills related to how to evaluate models generated from data enabling them to be employed for data analytics role.
56	19CS3O05	Artificial Intelligence	✓			Students are able to acquire technical skills to understand the evaluation of the AI, problem solving approaches, expert systems, kr in Expert systems and fuzzy logic problem solutions.
57	19CS3O06	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.
58	19PE3O01	Introduction to Petroleum Engineering		✓		Students are able to demonstrate technical skill of characterizing different streams, modelling and analysis of process in Petroleum Industry.
59	19PE3O02	Process Intensification		✓		Students are able to demonstrate technical skill of characterizing different intensifications, modelling and analysis of process in Petroleum Industry.
60	19PE3O03	Fundamentals of Liquefied Natural Gas	✓			Students are able to acquire skills related to various aspects of different crude behavior enabling them to be employed as process and transport engineers.
61	19PE3O04	Subsea Engineering		✓		Students are able to demonstrate technical skill of characterizing different subsea structures, modelling and analysis of production.
62	19PE3O05	Geology				
63	19PE3O06	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.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
64	192PD4P03	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		64	39	13	1	

Program Coordinator

Head of the Department

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

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	192CS1T01	Mathematical Foundations of Computer Science		✓		Students are able to demonstrate problem solving skills by implementing mathematical logic, number theory and graph theory.
2	192CS1T02	Advanced Data Structures & Algorithms	✓			Students are able to acquire technical skills related to demonstrate advance algorithmic problems enabling them to be employed as software developers.
3	192CS1E01	Big Data Analytics	✓			Students are able to gain skills related to Big data analytics and related tool enabling them to be employed for data analytics role.
4	192CS1E02	Digital Image Processing		✓		Students are able to acquire technical skills related to image processing by using various tools related to computer vision.
5	192CS1E03	Advanced Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input and output and memory operations which enables them to be employed for Hardware core side job opportunities
6	192CS1E04	Advanced Computer Networks				
7	192CS1E05	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
8	192CS1E06	Object Oriented Software Engineering		✓		Students are able to acquire technical skills to understand various O-O concepts along with their applicability contexts
9	192HS1T01	Research Methodology and IPR		✓		Students can gain knowledge about the methods of study, observation, comparison and experiment along with different types of Intellectual property rights.

10	192CS1L01	Advanced Data Structures & Algorithms Lab	✓			Students are able to acquire technical skills related to demonstrate advance algorithmic problems enabling them to be employed as software developers.
11	192CS1L02	Advanced Computing Lab	✓			Students can get hands on experience on web services, virtual environments, use of Hadoop enabling them to work easily as big data engineers.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
12	192CS2T03	Machine learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.
13	192CS2T04	MEAN Stack Technologies	✓			Students are able to deploy and test web applications using MongoDB, Angular and Node JS enabling them to be employed as mean stack developers
14	192CS2E07	Advanced Databases and Mining		✓		Students are able to get knowledge on advanced databases by learning about data at logical and view levels by implementing mining technologies and statistics
15	192CS2E08	Ad Hoc & Sensor Networks	✓			Students are able to acquire knowledge on Adhoc networks and their applications and knows how to use different sensors in different scenarios enabling them to work in IoT and Networking sectors
16	192CS2E09	Soft Computing				
17	192CS2E10	Cloud Computing	✓			Students are able to acquire skills related to Cloud computing and distributed computing enabling them to be employed for cloud services sector
18	192CS2E11	Principles of computer security		✓		Students are able to acquire knowledge on principles and methods to secure digital devices and networks
19	192CS2E12	High Performance Computing				
20	192CS2L03	Machine Learning with Python lab	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.
21	192CS2L04	MEAN Stack Technologies Lab	✓			Students are able to get hands-on experience on deploying and testing web applications using MongoDB, Angular and Node JS.
22	192CS2P01	Mini Project with Seminar				

23	192MC1A01/ /192MC2A01	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
24	191MC2A02 /192MC2A02	Disaster Management				
25	192MC1A03/ 192MC2A03	Sanskrit for Technical Knowledge				
26	192MC1A04/ 192MC2A04	Value Education				
27	192MC1A05/ 192MC2A05	Constitution of India				
28	192MC1A06 /192MC2A06	Pedagogy Studies				
29	192MC1A07 /192MC2A07	Stress Management by Yoga				
30	192MC1A08 /192MC2A08	Personality Development through Life Enlightenment Skills				
31	192MC1A09 /192MC2A09	Soft Skills		✓		The students are able to demonstrate Business Communication skills to analyze the mistakes in Body language, formal written communication in the organizations.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
32	192CS3P02	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.
33	192CS3E13	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.
34	192CS3E14	Social Network Analysis		✓		Students are able to acquire technical skills to Analyze a social network through data wrangling and visualizing a network.
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		✓		Students are able to demonstrate technical skill of various green principles related to buildings in constructional activities
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 .
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 in trust 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	192ES3O02	Digital System Design	✓			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.
52	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.
53	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
54	192VD3O01	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.
55	192VD3O02	VLSI Technology	✓			Students are able to acquire skills related to design, and processing technology, enabling them to be employed for designing and manufacturing of VLSI CHIPS.
56	192VD3O03	Nano-electronics	✓			Students are able to acquire knowledge related to different nano electronics building blocks such as carbon nano tubes, quantum dots, nano wires enabling them to be employed in the field of VLSI.
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.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
65	192CS4P03	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		**65**	**34**	**17**	**03**	

Program Coordinator

Head of the Department

Head of the Department
Department of CSE
ADITYA ENGINEERING COLLEGE (A)

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	192MC1A01/192MC2A01	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	192MC1A02/192MC2A02	Disaster Management				
14	192MC1A03/192MC2A03	Sanskrit for Technical Knowledge				
15	192MC1A04/192MC2A04	Value Education				
16	192MC1A05/192MC2A05	Constitution of India				
17	192MC1A06/192MC2A06	Pedagogy Studies				
18	192MC1A07/192MC2A07	Stress Management by Yoga				
19	192MC1A08/192MC2A08	Personality Development through Life Enlightenment Skills				
20	192MC1A09/192MC2A09	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

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

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

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	192ST1T01	Theory of Elasticity	✓			Students are able to acquire skills related to designing of beam to support load enabling them to be employed for constructional sector. Example, Roof & bridges.
2	192ST1T02	Structural dynamics	✓			Students are able to acquire analyzing skills related to the behaviour of structure subjected to dynamic loading enabling them to be employed as civil engineers.
3	192ST1T03	Advanced Concrete Technology	✓			Students are able to acquire cognitive skills related to advanced concepts of properties of concrete, design and test the concrete useful in constructional acitivities enabling them to be employed as structural engineers.
4	1925T1E03	Design of RCC Foundations		✓		Students are able to acquire skills related to designing of foundations based on soil properties which further influence the structural elements like beams, columns, slabs and foundations enabling them to be employed as designers and planners
5	1925T1E01	Matrix Analysis of Structures	✓			Students are able to demonstrate analytical skills to solve practical problems of trusses, beams & frames during designing of various constructional elements.
6	1925T1E02	Analytical & Numerical Method for Structural Engineering		✓		Students are able to acquire analytical skills related to designing of the structural elements like beams, columns, slabs and foundations enabling them to be employed as designers and planners

7	1925T1E05	Repair & Rehabilitation of Structures	✓			Students are able to acquire skills related to detroitaton of concrete structures and rehabilitation of these using advanced technologies, like preservation of monuments and other detroited structures enabling them to be employed as engineers in related field.
8	1925T1E04	Bridge Engineering	✓			Students are able to acquire skills related to force applied by the flow of water and relating it to design of dynamics/cyclic loads in various types of bridges enabling them to be employed as design engineers.
9	1925T1E06	Advanced Reinforced Concrete Design	✓			Students are able to acquire skills related to designing of structural elements like beams, columns, slabs and foundations using advanced reinforced materials along with concrete enabling them to be employed as designers and planners
10	1925T1L01	Advanced Concrete Technology Laboratory		✓		Students are able to acquire technical skills related to properties of concrete, design and test the concrete useful in constructional acitivities
11	1925T1L02	Advanced Structural Engineering Laboratory		✓		Students are able to demonstrate technical skill of testing advanced composite materials, light weight structures and engineering optimization.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneur ship	Remarks
12	192ST2T04	Finite Element Methods in Structural Engineering	✓			Students are able to demonstrate problem solving skills to analyze structural related problems and developing software development programs enabling them to be employed in various industries.
13	192ST2T05	Theory of Plates and Shells	✓			Students are able to acquire skills related to structural action against in stronger, thinner & lighter in structural members enabling them to be employed as civil engineers.
14	1925T2E07	Stability of Structures	✓			Students are able to acquire skills related to various aspects of soil mechanics, to ensure the safety of structures against collapse enabling them to be employed as designers of various constructional elements.
15	1925T2E08	Advanced Steel Design	✓			Students are able to acquire skills related to properties of steel structures and designing of connections between the structural members at industrial, offshore, high rise building enabling them to be employed for designing of building units.
16	1925T2E09	Analysis of offshore Structures	✓			Students are able to acquire skills related to properties of structural members when subjected to seismic loads and designing earthquake resistant structures enabling them to be employed in civil industry.
17	1925T2E10	Earthquake Restant Design of Buildings	✓			Students are able to acquire skills related to properties of structural members when subjected to seismic loads and designing earthquake resistant structures enabling them to be employed in civil industry.
18	1925T2E11	Precast and Prefabricated Structures		✓		Students are able to acquire skills related to properties of structural members related to precast and prefabricated structures .

19	1925T2E12	Earth Retaining Structures	✓			Students are able to acquire skills related to various aspects of properties of structural members when subjected to seismic loads and designing earthquake resistant structures enabling them to be employed as structural engineers.
20	192ST2L03	Computer Aided Design Laboratory		✓		Students are able to demonstrate technical skill of reducing manual drawing and related problems in designing and planning of constructional activities.
21	192ST2L04	Structural Design Laboratory		✓		Students are able to demonstrate technical skill of designing of various structural elements.
22	192ST2P01	Mini Project With Seminar		✓		Students are able to demonstrate technical skills related to handling real time projects
23	192MC1A01/192MC2A01	English for Research Paper Writing		✓		Students are able to demonstrate writing skills related to various research articles
24	192MC1A02/192MC2A02	Disaster Management		✓		Students are able to acquire skills related to preparedness towards various disasters in the environment.
25	192MC1A03/192MC2A03	Sanskrit for Technical Knowledge				
26	192MC1A04/192MC2A04	Value Education			✓	Students are able to acquire skills related to various values and ethics to be inculcated during maintenance of standards in the constructional sector of the society.
27	192MC1A05/192MC2A05	Constitution of India		✓		Students are able to familiarize themselves with various acts and regulations related to societal activities helping them in handling real time problems.
28	192MC1A06/192MC2A06	Pedagogy Studies		✓		Students are able to acquire skills related to various teaching styles of concepts learnt by them in their curriculum.
29	192MC1A07/192MC2A07	Stress Management by Yoga				
30	192MC1A08/192MC2A08	Personality Development through Life Enlightenment Skills	✓			Students are able to acquire skills related to preparedness to handle situations in day to day life enabling them to help in employment in various sectors.
31	192MC1A09/192MC2A09	Soft Skills		✓		The students are able to demonstrate Business Communication skills to analyze the mistakes in Body language, formal written communication in the organizations.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
32	192ST3E13	Design of Pre-stressed Concrete structures	✓			Students are able to acquire skills related to bridge designing and metro constructions enabling them to be employed in structural field of constructional activities.
33	192ST3E14	Structural Health Monitoring	✓			Students are able to acquire skills related to damage detection and characterization strategy for engineering structures helping in performance enhancement in existing structures enabling them to be employed as structural engineers
34	192ST3E15	Industrial Structures	✓			Students are able to acquire various technical skills in the construction of different industrial structures enabling them to be employed in various insustries.
35	19STMOOC1	MOOCS-I*		✓		Students are able to demonstrate technical skill of principles learnt in online courses helping in acquanting them with multidisciplinary knowledge apart from their curriculum
36	---	MOOCs-II #		✓		Students are able to demonstrate technical skill of principles learnt in online courses helping in acquanting them with multidisciplinary knowledge apart from their curriculum.
37	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.
38	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.
39	192PD3O03	Energy Audit and conservation Management			✓	The course focuses on the loss and profit studies and other company maintenance actives, creates the in trust among the students to have own company.
40	192PD3O04	Neural Networks and Fuzzy				

		Logic				
41	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.
42	192PD3O06	Composite Materials	✓			Students are able to acquire skills related to various materials of different structures enabling them to be employed as structural engineers.
43	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.
44	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.
45	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.
46	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.
47	192ES3O01	Embedded System Design				
48	192ES3O02	Digital System Design				
49	192ES3O03	Programming Languages for Embedded Systems				
50	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
51	192VD3O01	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.
52	192VD3O02	VLSI Technology				

53	192VD3O03	Nano-electronics	✓			Students are able to acquire knowledge related to different nano electronics building blocks such as carbon nano tubes, quantum dots, nano wires enabling them to be employed in the in industries.
54	192CS3O01	Python Programming (CSE)				
55	192CS3O02	Principles of Cyber Security		✓		Students are able to learn various technical skills involved in managing cyber security and avoiding problematic situations in present day world.
56	192CS3O03	Internet of Things		✓		Students will be able to demonstrate various technical dskills involved in relating to physical objects with sensors and communication between devices and the cloud used in day to day life.
57	192CS3O04	Machine Learning				
58	192CS3O05	Artificial Intelligence				
59	192CS3O06	Deep Learning				
60	192PE3O01	Introduction to Petroleum Engineering		✓		Students are able to demonstrate technical skill of characterizing different streams, modelling and analysis of process in Petroleum Industry.
61	192PE3O02	Process Intensification				Students are able to demonstrate technical skill of characterizing different intensifications, modelling and analysis of process in Petroleum Industry.
62	192PE3O03	Fundamentals of Liquified 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.
63	192PE3O04	Subsea Engineering		✓		Students are able to demonstrate technical skill of characterizing different subsea structures, modelling and analysis of production.
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	192ST3P02	Dissertation-I/ Industrial Project		✓		Students are able to demonstrate technical skill of principles learnt in various courses in their curriculum .

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
66	192ST4P03	Dissertation-II			✓	Students will be able to demonstrate problem identification, analysis, design solutions or applications in structural engineering domain through the acquired technical, cognitive, communication and creative skills to address societal needs.
TOTAL		**66**	**26**	**23**	**5**	

Program Coordinator

Head of the Department

Head of the Department
Dept. of Civil Engineering
ADITYA ENGINEERING COLLEGE (A9)

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	192PE1T01	Offshore Drilling.		✓		Students are able to demonstrate technical skill of characterizing different crude oils , modelling and analysis of reservoir for recovery.
2	192PE1T02	Fundamentals of Petroleum Geology and Reservoir Engineering. (NON-PE stream)		✓		Students are able to demonstrate technical skill of characterizing different offshore structures, modelling and analysis of drilling.
3	192PE1T03	Reservoir Stimulation (PE stream)	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of reservoir rocks enabling them to be employed for designing and evaluation of formation for treatment .
4	192PE1T04	Petroleum Well Drilling and Production Engineering. (NON-PE stream)		✓		Students are able to demonstrate technical skill of characterizing different drilling and production methods, modelling and analysis of subsurface exploration.
5	192PE1E01	Advanced Numerical Methods and Applied Statistics		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using Advanced Numerical Methods and Applied Statistics (MATLAB Based) in various engineering disciplines.
6	192PE1E02	CBM and Shale Gas Engineering			✓	Students are able to acquire skills related to design, synthesize and evaluate the performance of CBM and shale wells enabling them to be employed for designing and evaluation well for methane and oil extraction.
7	192PE1E03	Transportation of Oil and Gas		✓		Students are able to demonstrate technical skill of characterizing different crude oils , modelling and analysis of reservoir for recovery.
8	192PE1E04	Advanced Well Logging Techniques		✓		Students are able to demonstrate technical skill of characterizing different lift types , modelling and analysis of fluid behaviours in well testing.

		and Well Testing Analysis				
9	192HS1T01	Research Methodology and IPR		✓		Students can gain knowledge about the methods of study, observation, comparison and experiment along with different types of Intellectual property rights
10	192PE1L01	Advanced Numerical Methods and		✓		Students are able to demonstrate technical skill of characterizing different gas wells , modelling and analysis of fluid behaviours.
11	192PE1L02	Drilling Simulation Laboratory	✓			Students are able to learn the concepts of different drilling properties and analyse them by using software

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
12	192PE2T05	Artificial Lift Techniques		✓		Students are able to demonstrate technical skill of characterizing different lift types , modelling and analysis of fluid behaviours in wells.
13	192PE2T06	Reservoir Modeling and Simulation		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using Practical Reservoir Modelling and Simulation (MATLAB Based) in various engineering disciplines.
14	192PE2E05	Advanced EOR Techniques		✓		Students are able to demonstrate technical skill of characterizing different crude oils , modelling and analysis of reservoir for recovery.
15	192PE2E06	Advanced Well Completions		✓		Students are able to demonstrate technical skill of characterizing different wells , modelling and analysis of completions.
16	192PE2E07	Flow Assurance		✓		Students are able to demonstrate technical skill of characterizing different fluid flow properties , modelling and analysis of flow in wells.
17	192PE2E08	Advanced Horizontal Well Technology				
18	192PE2L03	Reservoir Simulation Laboratory	✓	✓		Students are able to acquire skills related to various aspects of different reservoirs enabling them to be employed as Reservoir Engineers.
19	192PE2L04	Flow Assurance Laboratory		✓		Students are able to demonstrate technical skill of characterizing different fluid flow properties , modelling and analysis of flow in wells.
20	192PE2P01	Mini Project with 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.
21	192MC1A01/ 192MC2A01	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

22	192MC1A02/ 192MC2A02	Disaster Management				
23	192MC1A03/ 192MC2A03	Sanskrit for Technical Knowledge				
24	192MC1A04/ 192MC2A04	Value Education				
25	192MC1A05/ 192MC2A05	Constitution of India				
26	192MC1A06/ 192MC2A06	Pedagogy Studies				
27	192MC1A07/ 192MC2A07	Stress Management by Yoga				
28	192MC1A08/ 192MC2A08	Personality Development through Life Enlightenment Skills				
29	192MC1A09/ 192MC2A09	Soft Skills		✓		The students are able to demonstrate Business Communication skills to analze the mistakes in Body language ,formal written communication in the organizations.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	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
31	192ST3O02	Green Building Systems		✓		Students Are Able To Demonstrate Technical Skill Of Various Green Principles Related To Buildings In Constructional Activities
32	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.
33	192ST3O04	Basic Foundation Engineering		✓		Students Are Able To Acquire Skills Related To Basic Concepts Of Foundations And Their Importance To Various Structures/Buildings
34	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.
35	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.
36	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.
37	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
38	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.
39	192PD3O06	Composite Materials		✓		Students Are Able To Acquire Skills Related To Synthesis And Characterization Of Various Types Of Composite Materials
40	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.
41	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.
42	192TE3O03	Green Engineering Technology		✓		-Students Are Able To Acquire Skills In Analyzing The Significance Of Alternative Sources Of Energy, Green Energy Systems.
43	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.
44	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.
45	192ES3O01	Embedded System Design				
46	192ES3O02	Digital System Design				
47	192ES3O03	Programming Languages for				
48	192ES3O04	Sensors & Actuators				
49	192VD3O01	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.

50	192VD3O02	VLSI Technology	✓			Students Are Able To Acquire Skills Related To Design, And Processing Technology, Enabling Them To Be Employed For Designing And Manufacturing Of Vlsi Chips
51	192VD3O03	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
52	192CS3O01	Python Programming (CSE)	✓			Students Are Able To Acquire Skills Related To Python Programming, Enabling Them To Be Employed As Software Developers.
53	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.
54	192CS3O03	Internet of Things	✓			Students Are Able To Acquire Skills Related To Internet Of Things And Enabling Them To Be Employed For Iot Sector.
55	192CS3O04	Machine Learning	✓			Students Are Able To Acquire Skills Related To Data Science Algorithms, Enabling Them To Be Employed As Data Scientists.
56	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
57	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.
58	192PE3O01	Introduction to Petroleum Engineering		✓		Students Are Able To Demonstrate Technical Skill Of Characterizing Different Streams , Modelling And Analysis Of Process In Petroleum Industry.
59	192PE3O02	Process Intensification		✓		Students Are Able To Demonstrate Technical Skill Of Characterizing Different Intensifications , Modelling And Analysis Of Process In Petroleum Industry.

60	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.
61	192PE3O04	Subsea Engineering		✓		Students Are Able To Demonstrate Technical Skill Of Characterizing Different Subsea Structures , Modelling And Analysis Of Production.
62	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.
63	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.
64	192PE3P02	Dissertation-I/ Industrial Project	✓			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.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
65	192PE4P03	Dissertation-II	✓			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.
	Total		25	23	4	

Program Coordinator

Head of the Department

Head of the Department
Department of Petroleum Technology
Aditya Engineering College (A)
SURAMPALEM-5 437

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	194MB1T01	Management and Organizational Behavior		✓		The students are able to demonstrate managerial skills by using the motivational theories ,leadership theories and organizational structure principles.
2	194MB1T02	Managerial Economics		✓		The students are able to demonstrate Problem solving skills by analysing different micro economic factors affecting business
3	194MB`1T03	Accounting for Managers	✓			The students are able to acquire skills related to financial statements preparation which enable them to be employed in accounts department of manufacturing and service based companies
4	194MB1T04	Quantitative Analysis for Business Decisions		✓		The students are able to demonstrate problem solving skills by Modelling Linear programming, Dynamic Programming
5	194MB1T05	Legal and Business Environment				.
6	194MB1T06	Business Communication and Soft Skills		✓		The students are able to demonstrate Business Communication skills to analyze the mistakes in Body language ,formal written communication in the organizations.
7	194MB1L01	Business Communication and Soft Skills Lab.		✓		The students are able to demonstrate Business Communication skills to analyze the mistakes in Body language ,formal written

						communication in the organizations
8	194MB1L02	Information Technology – Lab – I (Spreadsheet and Tally)		✓		The students are able to demonstrate technical skills to analyze the accounts data by using tally .
9	194MBMOOC1	MOOCs: SWAYAM/NPTEL.		✓		Students are able to demonstrate technical skill of various online courses available adding to their curricular courses
10	194MB1O01	Cross Cultural Management.		✓		The students are able to demonstrate managerial skills by analyzing Different work cultures both domestic and International &strategies for organizational change
11	194MB1O02	Rural Innovation Projects.		✓		The students are able to demonstrate analytical skills by modelling of problem identification & analysis of problems in rural areas

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	194MB2T07	Financial Management	✓			The students are able to acquire skills related to Investment decisions, Financial decisions ,dividend decisions which enable them to be employed in Finance department of manufacturing and service based companies
2	194MB2T08	Human Resource Management	✓			The students are able to acquire skills related to recruitment, selection ,performance appraisal which enable them to be employed in HR department of manufacturing and service companies
3	194MB2T09	Marketing Management	✓			The students are able to acquire skills related to marketing reserach,marketing mix ,promotional activities which enable them to be employed in marketing department of manufacturing companies
4	194MB2T10	Operations Management	✓			The students are able to acquire skills related to plant layout designs, productivity improving factors which enable them to be employed in manufacturing companies
5	194MB2T11	Business Research Methods		✓		The students are able to demonstrate Research skills to analyze functional area problems in Industries
6	194MB2L03	IT-Lab – 2 (R		✓		The students are able to demonstrate technical skills to analyze the business data by using R

		Programming)				programming.
7	194MB2O04	Project Management.		✓		The students are able to demonstrate managerial skills by Modelling of project, project management, project life-cycle, project appraisal.
	194MB2O05	Technology Management.		✓		The students are able to demonstrate technical skills by analyzing technological knowledge of business organization
9	194MB2O06	Lean Management.		✓		The students are able to demonstrate technical skills by characterising lean manufacturing techniques from TPS and its contribution for improving organizational performance
10	194MB2O07	Data base Management System.		✓		The students are able to demonstrate technical skills by learning data models of DBMS

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	194MB3T12	Strategic Management			✓	Students are able to apply the knowledge of environmental scanning and generic strategy alternatives ,which enable them to become entrepreneurs .
2	194MB3T13	Operations Research				
3	194HR3E01	Leadership and Change Management	✓			The students are able to acquire skills related to leadership qualities , leader capability which enable them to be employed in HR department of Manufacturing and service companies
4	194HR3E02	Performance Evaluation and Compensation Management	✓			The students are able to acquire skills related to wage payment plans , reward and motivation relation which enable them to be employed in HR department of Manufacturing and service companies. .
5	194HR3E03	Human Capital Management	✓			The students are able to acquire skills related to employee's discipline, safety & security at work locations which enable them to be employed in HR department of

						Manufacturing and service companies.
6	194HR3E04	Manpower Planning, Recruitment, and Selection	✓			The students are able to acquire skills related to recruitment, selection ,performance appraisal which enable them to be employed in HR department of manufacturing and service companies
7	194HR3E02	Investment Analysis and Portfolio Management	✓			The students are able to acquire skills related to financial markets risk and return analysis, optimum port folio which enable them to be employed in stock markets.
8	194FI3E02	Managing Banks and Financial Institutions	✓			The students are able to acquire skills related to banking industry ,NPA capital adequacy rules which enable them to be employed in banking Industry.
9	194FI3E03	Financial Markets and Services	✓			The students are able to acquire skills related to mergers, takeovers, valuation of firm after mergers which enable them to be employed in Finance department of manufacturing and service companies
10	194FI3E04	Taxation	✓			The students are able to acquire skills related to Tax structure and tax laws& GST, which enable them to be employed in Finance department of manufacturing and service companies
11	194MA3E01	Consumer Behavior	✓			The students are able to acquire skills related to analysis of consumer behaviour & Strategies which enable them to be

						employed in Marketing department of manufacturing and service based companies.
12	194MA3E02	Retail Management	✓			The students are able to acquire skills related to opportunities in Indian retail marketing and retail industry growth ,strategies which enable them to be employed in Marketing department of manufacturing and service based companies.
13	194MA3E03	Strategic Marketing Management	✓			The students are able to acquire skills related to Strategic marketing techniques techniques which enable them to be employed in Marketing department of manufacturing and service based companies.
14	194MA3E04	Digital and Social Media Marketing	✓			The students are able to acquire skills related to SEO,Digital marketing techniques which enable them to be employed in Marketing department of manufacturing and service based companies.
15	194MB3P01	Industrial Project based on Summer Internship		✓		Students are able to Analyze and find the solution for Present Problems in industry or a particular company
16	194SY3E01	Data Mining for Business Decisions				
17	194SY3E02	Managing Software Projects	✓			The students are able to acquire skills related to Software Cost Estimation And Activity

						Planning., which enable them to be employed in Software companies
18	194SY3E03	Web Designing	✓			The students are able to acquire skills related to HTML ,Website designing which enable them to be employed in Software companies
19	194SY3E04	Business Analytics	✓			The students are able to acquire skills related to system analysis techniques, system designs , which enable them to be employed in Software companies

IV SEMSTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	194MB4T14	Supply Chain Management and Analytics	✓			The students are able to acquire skills related to logistics management , supply chain designs which enable them to be employed in logistics based service companies.
2	194MB4T15	Innovation and Entrepreneurship			✓	Students are able to apply the knowledge of entrepreneurial skills, legal steps to start enterprises ,which enable them to become entrepreneurs.
3	194HR4E05	Labour Welfare and employment laws	✓			The students are able to acquire skills related to different labour acts ,minimum wages act which enable them to be employed in HR department of manufacturing and service based companies.
4	194HR4E06	International HRM	✓			The students are able to acquire skills related to global recruitment, Cultural diversity, Global training methods which enable them to be employed in HR department of manufacturing and service based companies.
5	194HR4E07	Employee Relations and Engagement	✓			The students are able to acquire skills related to employee relations in relation with work environment which enable them to be employed in HR department of manufacturing and service based companies.

6	194HR4E08	Strategic HRM	✓			The students are able to acquire skills related to Forwards, futures ,options &Swaps which enable them to be employed in Finance department of manufacturing and service companies
7	194FI4E05	Financial Derivatives	✓			The students are able to acquire skills related to international trade mechanism, derivatives ,Exchange rate fluctuations which enable them to be employed in Finance department of manufacturing and service companies
8	194FI4E06	International HRM	✓			The students are able to acquire skills related to Risk management in securities markets, Swaps which enable them to be employed in Finance department of manufacturing and service companies
9	194FI4E07	Risk Management	✓			The students are able to acquire skills related to investor behaviour analysis &rational thinking skill of investor which enable them to be employed in Finance department of manufacturing and service companies
10	194FI4E08	Behavioral Finance	✓			The students are able to acquire skills related to Forwards, futures ,options &Swaps which enable them to be employed in Finance department of manufacturing and service companies
11	194MA4E05	Services Marketing	✓			The students are able to acquire skills related to Indian service industry ,growth ,opportunities and strategies which enable them to be employed in Marketing department of manufacturing and

						service companies
12	194MA4E06	Promotional and Distribution Management	✓			The students are able to acquire skills related to sales promotional activates design ,advertisement strategies which enable them to be employed in Marketing department of manufacturing and service companies
13	194MA4E07	Green Marketing				
14	194MA4E08	Global Marketing Management	✓			The students are able to acquire skills related to global marketing opportunities which enable them to be employed in Marketing department of manufacturing and service companies
15	194MB4C01	Comprehensive Viva - Voce		✓		Project Help the Student to Analyze and find the solution for Present Industry Problems.
16	194SY4E05	Big Data Analytics	✓			The students are able to acquire skills related to Understanding of HDFS concepts, Interfacing the HDFS and Map Reduce Jobs. , which enable them to be employed in Software companies
17	194SY4E06	Enterprise Resource Planning	✓			The students are able to acquire skills related to ERP-SCM, which enable them to be employed in Software companies
18	194SY4E07	Cyber Laws & Security				The students are able to demonstrate Technical skills by Modelling of cyber laws and security.
19	194SY4E08	Artificial Intelligence	✓			The students are able to acquire skills related to A.I algorithms in the different fields of science,

		and Machine Learning				medicine, finance which enable them to be employed in Software companies
Total		**59**	**35**	**17**	**2**	

Program Coordinator

Head of the Department

Head of the Department
Department of Management Studies
Aditya Engineering College (A)
SURAMPALEM

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	195IM1T01	English Language – 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	195IM1T02	Business Mathematics & Statistics		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using statical equations , fundamentals mathematics used in various decisions of business.
3	195IM1T03	Fundamentals of Business Organization				
4	195IM1T04	Financial Accounting – I	✓			The students are able to acquire skills related to basics of accountant,preperation Financial statements which enable them to

						be employed in accounts department of manufacturing and service based companies
5	195IM1T05	Fundamentals of Computers		✓		The students are able to demonstrate technical skills through learning of different operating systems ,E Business and Epayment methods

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	195IM2T06	English Language – 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.
2	195IM2T07	Business Environment		✓		The students are able to demonstrate Business environment skills by characterising The SWOT of different companies.
3	195IM2T08	Managerial Economics		✓		Core course Imparts knowledge on micro economics ,Macro economics & understands different market structures ,pricing methods
4	195IM2T09	Financial	✓			The students are able to acquire skills related to Fund flow preparation cash

		Accounting – II				flow preparation ,preparation Financial report which enable them to be employed in accounts department of manufacturing and service based companies
5	195IM2T10	Organizational Communications		✓		The students are able to demonstrate Business Communication skills to analze the mistakes in Body language ,formal written communication in the organizations.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	195IM3T11	Principles of Management		✓		The students are able to demonstrate managerial skills by using the motivational theories ,leadership theories and organizational structure principles.
2	195IM3T12	Cost Accounting	✓			The students are able to acquire skills related to Standard costing ,Marginal costing, Break even analysis which enable them to be employed in accounts department of manufacturing and service based companies
3	195IM3T13	Banking Theory & Practice	✓			The students are able to acquire skills related to banking industry ,NPA capital adequacy rules which enable them to be employed in banking Industry
4	195IM3T14	Business Law				

5	195IM3T15	Entrepreneurship Development			✓	Students are able to apply the knowledge of entrepreneurial skills, legal steps to start enterprises ,which enable them to become entrepreneurs .

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	195IM4T16	Organizational Behavior		✓		The students are able to demonstrate managerial skills by using the Management styles and principles to build an organization.
2	195IM4T17	Management Accounting	✓			The students are able to acquire skills related to accounting concepts Advance accounting tools, which enable them to be employed in Finance department of manufacturing and service companies
3	195IM4T18	Company Law	✓			The students are able to acquire skills related legal and business environment and students will learn the companies Act of 1956 and 2013,which enable them to be employed in IR applicable companies
4	195IM4T19	Elements of Direct & Indirect Taxes	✓			The students are able to acquire skills related to Tax structure and tax laws, which enable them to be employed

						in Finance department of manufacturing and service companies
5	195IM4T20	Management Information Systems		✓		The students are able to demonstrate technical skills to analyze Different information systems, usage in business decision making.

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	175IM5T21	Financial Management	✓			The students are able to acquire skills related to Investment decisions, Financial decisions ,dividend decisions which enable them to be employed in Finance department of manufacturing and service based companies
2	175IM5T22	Marketing Management	✓			The students are able to acquire skills related to marketing reserach,marketing mix ,promotional activities which enable them to be employed in marketing department of manufacturing companies
3	175IM5T23	Human Resource Management	✓			The students are able to acquire skills related to recruitment, selection ,performance appraisal which enable them to be employed in HR department of manufacturing and service companies

4	175IM5T24	Production & Operations Management				
5	175IM5T25	Research Methodology		✓		The students are able to demonstrate Research skills to analyze functional area problems in Industries

VI SEMISTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	175IM6T26	Operations Research		✓		The students are able to demonstrate problem solving skills by Modelling Linear programming, Dynamic Programming
2	175IM6T27	International Business		✓		Students are able to apply the knowledge of environmental scanning and generic strategy alternatives which enable them to become entrepreneurs.
3	175IM6T28	Strategic Management		✓		Students are able to apply the knowledge of International business strategies, which enable them to become international entrepreneurs .
4	175IM6T29	Decision Support Systems				
5	175IM6P01	Minor Project		✓		Project Help the Student to Analyze and

						find the solution for Present Industry Problems.

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	175IM7T30	Knowledge Management		✓		The students are able to demonstrate Creative skills by analyzing different Brainstorming techniques and Knowledge management techniques to create Skill human capital
2	175IM7T31	Strategic Cost Management	✓			The students are able to acquire skills related to Cost accounting, Strategies for cost reduction and cost control, which enable them to be employed in accounts department of manufacturing and service based companies.
3	175HR7E01	Human Resource Planning	✓			: The students are able to acquire skills related to recruitment, selection ,performance appraisal which enable them to be employed in HR department of manufacturing and service companies

4	175SY7E01	E-Business	✓			The students are able to acquire skills related to Ecommerce methods,SEO,Digital marketing , which enable them to be employed in Software companies
5	175SY7E02	Relational Database Management Systems	✓			: The students are able to acquire skills related to Data base management systems which enable them to be employed in Software companies
6	175SY7E03	Web Designing	✓			The students are able to acquire skills related to HTML, Website designing which enable them to be employed in Software companies
7	175HR7E02	Leadership Management	✓			The students are able to acquire skills related to leadership qualities , leader capability which enable them to be employed in HR department of Manufacturing and service based companies.
8	175HR7E03	Compensation and				The students are able to acquire skills

		Reward Management	✓			related to wage payment plans , reward and motivation relation which enable them to be employed in HR department of Manufacturing and service based companies.
9	175FI7E01	Security Analysis	✓			The students are able to acquire skills related to financial markets risk and return analysis, optimum port folio which enable them to be employed in stock markets.
10	175IMAP02	Major Project		✓		Students are able to Analyze and find the solution for Present Problems in industry or a particular company
11	175FI7E02	Banking and Insurance Management	✓			The students are able to acquire skills related to banking industry, NPA capital adequacy rules which enable them to be employed in banking Industry.
12	175FI7E03	Advanced Management Accounting	✓			The students are able to acquire skills related to Cost accounting, advance accounting techniques which enable

			✓			them to be employed in accounts department of manufacturing and service based companies.
13	175MA7E03	Supply Chain Management	✓			The students are able to acquire skills related to cost benefit analysis of different supply chains, designs which enable them to be employed in Marketing department of manufacturing and service based companies
14	175MA7E01	Consumer Behavior	✓			The students are able to acquire skills related to analysis of consumer behaviour& Strategies which enable them to be employed in Marketing department of manufacturing and service based companies.
15	175MA7E02	Rural Marketing	✓			The students are able to acquire skills related to opportunities in Indian rural marketing and rural market growth ,strategies which enable them to be employed in Marketing department of manufacturing and

VIII Semester

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	175HR8E05	Strategic Human Resource Management	✓			The students are able to acquire skills related to recruitment, Competitive strategies which enable them to be employed in HR department of Manufacturing and service based companies.
2	175HR8E06	Organizational Development & Change	✓			The students are able to acquire skills related to resistant to change, change strategies which enable them to be employed in HR department of manufacturing and service based companies.
3	175IM8T32	Total Quality Management		✓		The students are able to demonstrate managerial skills by Modelling of ISO standards ,six sigma methodology, and Total quality management in business processes.
4	175IM8T33	Project		✓		The students are able to

						service based companies.

		Management				demonstrate managerial skills by Modelling of project, project management, project life-cycle, project appraisal.
5	175FI8E04	Strategic Financial Management	✓			The students are able to acquire skills related to mergers,takeovers,valuation of the firm after merger which enable them to be employed in accounts department of manufacturing and service based companies.
6	175FI8E05	Portfolio Management	✓			The students are able to acquire skills related to financial markets risk and return analysis, optimum port folio which enable them to be employed in stock markets.
7	175SY8E04	System Analysis & Design	✓			The students are able to acquire skills related to system analysis techniques, system designs , which enable them to be employed in Software companies

8	175SY8E05	Business Intelligence	✓			The students are able to acquire skills related to Data mining, connecting in BI systems, which enable them to be employed in Software companies.
9	175SY8E06	Enterprise Resource Planning	✓			The students are able to acquire skills related to ERP-SCM, which enable them to be employed in Software companies
10	175FI8E06	Financial Markets and Services	✓			The students are able to acquire skills related to mergers.takeovers,valuation of firm after mergers which enable them to be employed in Finance department of manufacturing and service companies.
11	175MA8E04	Customer Relationship Management	✓			The students are able to acquire skills related to Cost accounting, Strategies for cost reduction and cost control, which enable them to be employed in accounts department of manufacturing and service based companies.

12	175MA8E05	Strategic Marketing Management	✓			Students are able to apply the knowledge of International business strategies ,which enable them to become international entrepreneurs .
13	175MA8E06	Services Marketing	✓			The students are able to acquire skills related to Indian service industry ,growth ,opportunities and strategies which enable them to be employed in Marketing department of manufacturing and service companies
14	175HR8E04	Performance Management	✓			The students are able to acquire skills related to concepts performance evaluation methods, merit rating procedure, limitations relation which enable them to be employed in HR department of Manufacturing and service based companies.

IX SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	16IM901	Intellectual Property Rights			✓	Students are able to apply the knowledge of patents ,copyrights, trade marks registration which enable them to become entrepreneurs .
2	16IM902	Corporate Governance		✓		The students are able to demonstrate managerial skills by learning the corporate ethics, marketing ethics, human resource ethics.
3	16IM903	Global HRM	✓			The students are able to acquire skills related to global recruitment, Cultural diversity, Global training methods which enable them to be employed in HR department of manufacturing and service

						based companies.
4	16IM904	Labor Welfare & Legislation	✓			The students are able to acquire skills related to different labour acts ,minimum wages act which enable them to be employed in HR department of manufacturing and service based companies.
5	16IM905	Management of Industrial Relations	✓			The students are able to acquire skills related to Industrial relations acts ,labour laws which enable them to be employed in Marketing department of manufacturing and service based companies.
6	16IM903	Global Financial Management	✓			The students are able to acquire skills related to global recruitment, Cultural diversity, Global training methods which

						enable them to be employed in HR department of manufacturing and service based companies.
7	16IM904A	Risk Management	✓			The students are able to acquire skills related to Risk management in securities markets, Swaps which enable them to be employed in Finance department of manufacturing and service companies
8	16IM905B	Tax Management	✓			The students are able to acquire skills related to Tax structure and tax laws& GST, which enable them to be employed in Finance department of manufacturing and service companies

9	16IM903C	Promotion and Distribution Management	✓			The students are able to acquire skills related to sales promotional activates design ,advertisement strategies which enable them to be employed in Marketing department of manufacturing and service companies
10	16IM904D	Global Marketing Management	✓			The students are able to acquire skills related to global marketing strategies which enable them to be employed in Marketing department of manufacturing and service companies
11	16IM905A	Retail Marketing		✓		The students are able to demonstrate Technical skills by Modelling of cyber laws and security.
12	16IM903B	Cyber Laws &		✓		The students are able to demonstrate technical

		Security				skills by learning the Normative Models of the Systems Development Process, Data Integrity
13	16IM904C	Information Systems & Audit		✓		The students are able to demonstrate technical skills by learning the Normative Models of the Systems Development Process, Data Integrity
14	16IM905D	SAP	✓			The students are able to acquire skills related to SAP Technology which enable them to be employed in finance or HR of SAP applied Companies

X SEMISTER

S.No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	16IM1001	Major Project Report		✓		Project helps the Student to Analyze and find the solution for Present Industry Problems.
Total		**73**	**44**	**24**	**2**	

K Shailaja
Program coordinator

N. Viral
Head of the Department

Head of the Department
Department of Management Studies
Aditya Engineering College (A)
SURAMPALEM

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	203MC1T01	Business Communication	✓			Students are able to demonstrate competency in the domain of computers extension and business management enabling them to become an entrepreneur.
2	203MC1T02	Mathematical and Statistical Foundations		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using differential equations, system of linear equations in various engineering disciplines.
3	203MC1T03	Computer Organization & Operating Systems	✓			Students are nurtured with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
4	203MC1T04	Data Structures		✓		Students are able to demonstrate the learn different sorting searching algorithms and data structures like stack, queue, linked list, Trees and Graphs.
5	203MC1T05	Object Oriented Programming with JAVA		✓		Students are able to demonstrate Problem solving skills to analyze the real time problem, and creative solutions using JAVA Programming language.
6	203MC1L01	Operating Systems and Linux Lab		✓		Students are able to demonstrate the basic knowledge in the operating system and Linux OS, which is very much essential for the career growth
7	203MC1L02	Data Structures Lab		✓		Students are able to demonstrate the data structures helps to gain problem-solving skills i.e. to solve a problem in a logical as well

						as creative way.
8	203MC1L03	JAVA Programming Lab		✓		Students are able to gain problem-solving skills i.e. to solve a problem in a logical as well as creative way using Java programming language.
9	203MC1P01	Socially Relevant Project using Design Thinking		✓		Students are able to analyse the real time problem analysis, and find the solutions in creative way.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
10	203MC2T06	Database Management Systems		✓		Students are able to demonstrate Problem solving skills to analyze the Data Base Management Systems to gain knowledge in a structured way to store and retrieve the data in effective way.
11	203MC2T07	Computer Networks		✓		Students are able to demonstrate Problem solving skills to analyze basics of CN, different models of Computer Networks, layers protocol suite and Detailed study of the OSI reference model and the TCP IP architectures.
12	203MC2T08	Software Engineering and Design Patterns		✓		Students are able to demonstrate Problem solving skills to analyze the software engineering and design patterns to achieve the "best" design of software's by imparting the suitable design pattern.
13	203MC2T09	Data Warehousing and Mining		✓		Students are able to demonstrate Problem solving skills to analyze the Data warehousing is a method of organizing and compiling data into one database.
14	203MC2E02	Design and Analysis of Algorithms		✓		Students are able to demonstrate Problem solving skills to analyze the designing of algorithms and analysis of algorithms.
15	203MC2L04	Dbms Lab		✓		Students are able to demonstrate Problem solving skills to gain problem-solving skills i.e. to solve a problem in a logical as well as creative way using DBMS.
16	203MC2L05	Computer Networks Lab		✓		Students are able to demonstrate Problem solving skills to gain problem-solving skills i.e. to solve a problem in a logical as well

						as creative way using computer networks.
17	203MC2L06	Software Engineering and Design Patterns Lab		✓		Students are able to demonstrate Problem solving skills to analyze the software engineering and design patterns to achieve the "best" design of software's by imparting the suitable design pattern.
18	203MC2T10	Employability Skills	✓			The students can able to learn solving problems in creatively and can communicate effectively.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
19	193MC3T11	Database Management Systems		✓		Students are able to demonstrate Problem solving skills to analyze structured way to store and retrieve the data in effective way.
20	193MC3T12	Computer Networks		✓		Students are able to demonstrate Problem solving skills to analyze basics of CN, different models of Computer Networks, layers protocol suite and Detailed study of the OSI reference model and the TCP IP architectures.
21	193MC3T13	Design & Analysis of Algorithms		✓		Students are able to demonstrate Problem solving skills to analyze the designing of algorithms and analysis of algorithms.
22	193MC3T14	Advanced Java Programming		✓		Students are able to demonstrate Problem solving skills to analyze the creating web applications, other software applications and for real time problems students can give creative solutions.
23	193MC3T15	Object Oriented Analysis and Design				
24	193MC3L07	Database Management Systems Lab		✓		Students are able to demonstrate Problem solving skills to gain problem-solving skills i.e. to solve a problem in a logical as well as creative way using DBMS.
25	193MC3L08	Advanced Java Programming Lab		✓		Students are able to demonstrate Problem solving skills to gain problem-solving skills i.e. to solve a problem in a logical as well as creative way using Advanced Java Programming.

26	193MC3L09	OOAD through UML Lab		✓		Students are able to demonstrate Problem solving skills to gain problem-solving skills i.e. to solve a problem in a logical as well as creative way using Unified Modelling Language.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
27	193MC4T16	Data Warehousing & Data Mining	✓			Students are able to acquire skills related to Data warehousing is a method of organizing and compiling data into one database, whereas data mining deals with fetching important data from databases.
28	193MC4T17	Full Stack Technologies	✓			Students are able to acquire skills related to Full stack Technologies to give solutions to Realtime problems in creative way.
29	193MC4T18	Python Programming	✓			Students are able to acquire skills related to Python Programming to give solutions to Realtime problems in creative way.
30	193MC4E01	Embedded Computing				
31	193MC4E02	Artificial Intelligence	✓			Students are able to acquire skills related to Artificial Intelligence to understand the evaluation of the AI, problem solving approaches, expert systems, kr in Expert systems and fuzzy logic problem solutions.
32	193MC4E03	MOOCs-1	✓			Students are able to acquire skills related to selected course.
33	193MC4E04	Cloud Computing	✓			Students are able to acquire skills related to Cloud computing and distributed computing enabling them to be employed for cloud services sector. .
34	193MC4E05	Multimedia Application				

		Development				
35	193MC4E06	Moocs-2	✓			Students are able to acquire skills related to Full stack Technologies to give solutions to Realtime problems in creative way.
36	193MC4L10	Full Stack Technologies Lab	✓			Students are able to acquire skills related to Full stack Technologies to give solutions to Realtime problems in creative way.
37	193MC4L11	Data Mining with R Lab	✓			Students are able to acquire skills related to data mining to give solutions to Realtime problems in creative way using Python Programming.
38	193MC4L12	Python Programming Lab	✓			Students are able to acquire skills related to Python Programming to give solutions to Realtime problems in creative way.

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
39	173MC5T19	Big Data Analytics	✓			Students are able to acquire skills related to Big Data Use Cases and Big Data Analytics, the building blocks of Hadoop, Map Reduce approach to solve data analytics problems and PIG and Hive programming tools of Hadoop echo system
40	173MC5T20	Network Programming	✓			Students are able to acquire skills related to Network Programming, how a client will interact with server, socket programming, I/o multiplexing and UDP socket programming.
41	173MC5T21	Python Programming	✓			Students are able to acquire skills related to Python Programming to give solutions to Realtime problems in creative way.
42	173MC5E07	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.
43	173MC5E08	Computer Forensics	✓			Students are able to acquire skills related to introduced the computer forensics, Both privately owned businesses as well as government entities such as the FBI, CIA, and NSA.
44	173MC5E09	E – Commerce				
45	173MC5E10	Internet of Things				Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.

			✓			
46	173MC5E11	Multimedia Application Development	✓			Students are able to acquire technical skills to learn the development of multimedia applications development with the cross disciplinary skills of computing and creative media.
47	173MC5E12	Software Testing Methodologies		✓		Students are able to acquire technical skills by applying different software testing techniques and strategies.
48	173MC5E13	Big Data Analytics Lab	✓			Students are able to acquire skills related to Big Data Use Cases and Big Data Analytics, the building blocks of Hadoop, Map Reduce approach to solve data analytics problems and PIG and Hive programming tools of Hadoop echo system
49	173MC5E14	Network Programming Lab	✓			Students are able to acquire skills related to Network Programming, how a client will interact with server, socket programming, I/O multiplexing and UDP socket programming.
50	173MC5E15	Python Programming Lab	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
51	173MC6R01	Seminar		✓		Students are able to acquire skills related to learn new technologies and present one of it.
52	173MC6P01	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 No.Courses		**52**	**23**	**24**	**0**	

T. Satya
Program Coordinator

Head of The Department
Head of the Department
Department of MCA
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