

PROGRAM STRUCTURE**I SEMESTER**

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	191HS1T01	Communicative English		✓		Students are able to demonstrate communication skills to express fluently in both written as well as oral form of language which is very much essential for the career growth
2	191BS1T01	Differential Equations and Linear Algebra		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using ordinary differential equations, system of linear equations in various engineering disciplines.
3	191BS1T02	Engineering Physics				
4	191ES1T01	Programming for Problem Solving Using C	✓			Students are able to acquire programming skills related to Structured programming, arrays, functions, pointers, structures and unions that enable them to be employed as a software developer.
5	191HS1L01	Communicative English Lab-I		✓		Students are able to demonstrate technical skills to express fluently in both written as well as oral form of language which is very much essential for the career growth
6	191BS1L01	Engineering Physics Lab	✓			
7	191ES1L01	Programming for Problem Solving Using C Lab	✓			Students are able to demonstrate technical skills related to control structures, arrays, string formulas enabling them to be employed in software industry.
8	191ES1L02	Basic Engineering Workshop		✓		Engineering Workshop helps the students by improving their skills by knowing the construction of various wooden joints and various fitting joints, by understanding different black smithy work and preparing various sheet metal models.

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9	191MC1A01	Environmental Science				
10	191MC1A02	Constitution of India				

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
11	191BS2T05	Partial Differential Equations and Vector Calculus		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using partial differential equations, vector differentiation, vector integration and their applications in various engineering disciplines.
12	191BS2T06	Chemistry of Materials				
13	191ES2T02	Engineering Graphics and Design		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using partial differential equations and their applications in various engineering disciplines.
14	191ES2T03	Essential Electrical & Electronics Engineering	✓			Students are able to acquire technical skill of characterizing electronic devices, modelling and analysis of electronic circuits in logging industry.
15	191ES2T04	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.
16	191HS2L02	Communicative English Lab-II		✓		Students are able to demonstrate technical skills to express fluently in both written as well as oral form of language which is very much essential for the career growth
17	191BS2L04	Engineering Chemistry Lab				

18	191ES2L03	Essential Electrical and Electronics Engineering Lab		✓		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.
19	191ES2L14	Agricultural Engineering Workshop		✓		Students are able to demonstrate technical skill of developing components by lathe machine, welding joints, milling and drilling practices
20	191PR2P01	Engineering Exploration Project		✓		Students will be able to demonstrate problem identification, analysis, design solutions or applications in electronics and communication domain through the acquired technical, cognitive, communication and creative skills to address societal needs.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
21	171AG3T01	Principles of Soil Science and Agronomy	✓			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.
22	171AG3T02	Renewable Energy Sources	✓			Students are able to acquire skills related to storage and application techniques of solar energy, different modern energy conversion technologies enabling them to be employed in renewable energy companies.
23	171AG3T03	Ground Water Hydrology, Wells and Pumps	✓			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.
24	171ES3T19	Properties and Strength of Materials	✓			Students are able to acquire skills related to analyzing the deflections in beams under various loading and support conditions, solving the load carrying capacity of columns for different end conditions, and design of riveted and welded joints enabling them to be employed in construction related companies.
25	171ES3T20	Electrical and Electronics Engineering	✓			Students are able to acquire skills related to basic electrical and electronic principles enabling them to be employed for designing civil engineering constructional elements.
26	171ES3T21	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.
27	171AG3L01	Soil Science and Agronomy Field Lab		✓		Students are able to demonstrate technical skill of crop management practices adopted for increasing the crop productivity.
28	171ES3L11	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	171HS3A10	Employability Skills - I	✓			This subject helps the students to acquire skills to be placed in a company as it will impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence.
30	171HS3A09	Professional Ethics and Human Values		✓		Students are able to acquire skills which help them in becoming a professional with ethical and human values,

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
31	171AG4T04	Thermodynamics and Refrigeration Systems	✓			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
32	171AG4T05	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.
33	171ES4T25	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.
34	171AG4T06	Soil Mechanics	✓			Students are able to acquire skills related to determination of vertical stresses condition for different load conditions, shear strength of soils through theoretical shear parameters which helps them in construction of soil and water conservation structures, irrigation and drainage structures enabling them to be employed for designing drainage and irrigation structures.
35	171AG4T07	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.

36	171AG4T08	Engineering Properties of Biological Materials and Food Quality	✓			Students are able to acquire skills related to designing various processing equipment's to insure food quality and safety enabling them to be employed as a food engineer.
37	171ES4L14	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.
38	171ES4L15	Machine Drawing and Computer Graphics Lab		✓		Students are able to demonstrate technical skill of Manual drawing of machine components and Basics of AUTOCAD
39	171HS4A11	Employability Skills – II	✓			This subject helps the students to acquire skills to be placed in a company as it will impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence.
40	171HS4A08	Intellectual Property Rights and Patents			✓	It helps the graduates safe guard the IP and innovations at their place of work.

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
41	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.
42	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.
43	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.
44	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.
45	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.
46	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.
47	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

48	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.
49	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.
50	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
51	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.
52	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
53	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.
54	171AG6T15	Farm Machinery and Equipment – I	✓			Students are able to acquire skills related to design of different farm implements enabling them to be employed in farm machinery companies.
55	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.
56	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.
57	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.

58	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.
59	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
60	171AG6E06	Green House / Poly House Technology	✓			Students are able to acquire skills related to techniques for the construction of polyhouse for drying purpose, for horticultural crops enabling them to be employed as greenhouse/ poly house planner.
61	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.
62	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.
63	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.
64	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.

65	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.
66	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
67	R1641353	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.
68	R1641354	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.
69	R164135A	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.
70	R164135B	Green House Technologies	✓			Students are able to acquire skills related to techniques for the constructing of polyhouse for drying purpose, for horticultural crops enabling them to be employed as greenhouse/ poly house planner.
71	R164135C	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	R164135D	Watershed Management	✓			Students are able to acquire skills related to estimating runoff and water harvesting structures, erosion controlling techniques and water harvesting methods enabling them to be employed in companies related to watershed management

						projects.
73	R164135E	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.
74	R164135F	Minor Irrigation and Command area development	✓			Students are able to acquire skills related to improvement of command area, usage of water resources effectively enabling them to employed as water resource planner.
75	R1641357	Farm Machinery Lab-2		✓		Students are able to demonstrate technical skill of determining parameters of different farm implements, calibration of seed cum fertilizer drills and sprayers.
76	R1641358	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.

VIII SEMESTER


S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
77	R1642353	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.
78	R164235A	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.
79	R164235B	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.
80	R164235C	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.
81	R1642355	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

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						societal needs.
82	R1642356	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		82	47	24	06	


Program Coordinator


Head of the Department
Head of the Department
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