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Aditya Nagar, ADB Road, Surampalem - 533437, Near Kakinada, E.G.Dt., Ph:99498 76662

Program Name : B.Tech. in Agricultural Engineering

Syllabus Revision for the Academic Year 2020-2021				
S.No	**Semester**	**Course Code**	**Course Name**	**% of content revised for the existing year**
1	I	201HS1T01	Communicative English	0
2	I	201BS1T01	Differential equations and Linear algebra	0
3	I	201BS1T02	Engineering Physics	0
4	I	201ES1T04	Principles of Agronomy and Soil Science	5
5	I	201ES1T05	Engineering Graphics	10
6	I	201HS1L01	Communicative English Lab	0
7	I	201BS1L01	Engineering Physics Lab	0
8	I	201ES1L04	Soil Science and Agronomy Field Lab	20
9	I	201MC1T01	Environmental Science	0
10	I	201BS2T05	Partial Differential Equations and Vector Calculus	0
11	II	201BS2T08	Chemistry of Materials	0
12	II	201ES2T06	Engineering Mechanics	0
13	II	201ES2T08	Programming for Problem Solving Using C	0
14	II	201ES2L07	Engineering Workshop	0
15	II	201ES2L12	Computer Aided Drafting Lab	100
16	II	201HS2L02	Professional communications skills Lab	0
17	II	201BS2L05	Engineering Chemistry Lab	0

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18	II	201ES2L10	Programming for Problem Solving Using C	0
19	II	201MC2T02	Constitution of India	0
20	III	191BS3T11	Integral Transforms and Applications of Partial Differential Equations	40
21	III	191ES3T10	Internet of Things	100
22	III	191HS3T02	Managerial Economics and Financial Analysis	0
23	III	191AG3T01	Principles of Agronomy and Soil Science	10
24	III	191AG3T02	Fluid Mechanics and Open Channel Hydraulics	0
25	III	191AG3T03	Surveying and Leveling	0
26	III	191AG3L01	Principles of Agronomy and Soil Science Lab	20
27	III	191AG3L02	Fluid Mechanics and Open Channel Hydraulics Lab	10
28	III	191AG3L03	Surveying and Leveling Lab	0
29	III	191MC3A03	Employability Skills – I	0
30	III	191MC3A04	Essence of Indian Traditional Knowledge	100
31	IV	191BS4T16	Numerical Methods & Statistical Techniques	100
32	IV	191AG4T04	Thermodynamics and Refrigeration System	15
33	IV	191AG4T05	Farm Power and Tractor Systems	15
34	IV	191AG4T06	Ground Water Hydrology	5
35	IV	191AG4T07	Heat and Mass Transfer	10
36	IV	191AG4T08	Surface Water Hydrology	0
37	IV	191AG4L04	Ground Water Hydrology Lab	100
38	IV	191AG4L05	Farm Power and Tractor Systems Lab	50
39	IV	191AG4L06	Heat and Mass Transfer lab	100
40	IV	191MC4A05	Employability Skills – II	0
41	IV	191MC4A06	Biology for Engineers	100

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42	V	171AG5T09	Theory of Structures	0
43	V	171AG5T10	Irrigation and Drainage Engineering	0
44	V	171AG5T11	Agricultural Process Engineering	0
45	V	171AG5T12	Agricultural Extension Techniques and Business Management	0
46	V	171AG5T13	Farm Power and Tractor Systems	0
47	V	171AG5E01	Agro Industries and Bi-Product Utilization	0
48	V	171HS5E01	Managerial Economics and Financial Analysis	0
49	V	171AG5E02	Rural Water Supply, Sanitation and Environmental Engineering	0
50	V	171HS5T06	Employability Skills - III	0
51	V	171AG5L02	Agricultural Process Engineering Lab	0
52	V	171AG5L03	Field Operation and Maintenance of Tractors Lab	0
53	V	171AG5S01	MOOCs – I	0
54	VI	171AG6T14	Soil and Water Conservation Engineering	0
55	VI	171AG6T15	Farm Machinery and Equipment – I	0
56	VI	171AG6T16	Design of Soil, Water Conservation and Farm Structures	0
57	VI	171AG6T17	Post Harvest Engineering for Horticulture Produce	0
58	VI	171AG6E03	GIS and Remote Sensing	0
59	VI	171AG6E04	Human Engineering and Safety	0
60	VI	171AG6E05	Production Technology of Agricultural Machinery	0
61	VI	171AG6E06	Green House / Poly House Technology	0
62	VI	171AG6E07	Optimization, Operations Research and Systems Engineering	0
63	VI	171AG6E08	Industrial Engineering and Management	0
64	VI	171HS6T07	Employability Skills - IV	0
65	VI	171AG6L04	Farm Machinery Lab - I	0

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66	VI	171AG6L05	Soil and Water Engineering Lab	0
67	VI	171AG6S02	MOOCs – II	0
68	VII	171AG7T18	Micro Irrigation Engineering	0
69	VII	171AG7T19	Farm Machinery and Equipment – II	20
70	VII	171AG7T20	Dairy and Food Engineering	0
71	VII	171ES7T26	Mechanical Measurements and Instrumentation	0
72	VII	171AG7E09	Seed Processing and Storage Engineering	20
73	VII	171AG7E10	Food Processing Plant Design and Layout	0
74	VII	171AG7E11	Food Packaging Technology	20
75	VII	171AG7E12	Aqua Cultural Engineering	100
76	VII	171AG7E13	Soil Dynamics in Tillage and Traction	100
77	VII	171AG7E14	Computational Fluid Dynamics	100
78	VII	171AG7L06	Farm Machinery Lab – II	20
79	VII	171AG7L07	Dairy and Food Engineering Lab	20
80	VII	171AG7P01	Industry Oriented (Internship) Minor Project	100
81	VIII	171AG8E15	Hydraulic Devices and Control	100
82	VIII	171AG8E16	Watershed Management	0
83	VIII	171AG8E17	Design of Agricultural Machinery	20
84	VIII	171AG8O01	Digital Control systems	0
85	VIII	171AG8O02	Industrial Pollution Control Engineering	20
86	VIII	171AG8O03	Mechatronics	100
87	VIII	171AG8O04	Water Resources Systems Planning and Management	0
88	VIII	171CS8O04	Operations Research	20
89	VIII	171AG8O05	Image Processing Techniques	100

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90	VIII	171AG8P02	Major Project	0
Total number of courses in the academic year 2020-2021				90
Number of courses having revision in syllabus content >/= 20% in the academic year 2020-2021				26
Percentage of syllabus revision carried out in the academic year 2020-2021 = (25/88)*100				28.88

Program Coordinator

N.V.Goel

Head of the Department

Head of the Department
Department of Agricultural Engineering
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Department of Agricultural Engineering

Date: 14-10-2020

Minutes of the VI meeting of BOS scheduled on 10-10-2020

The VI BOS meeting of Agricultural Engineering was virtually held in Microsoft Teams on 10-10-2020 at 10.00 AM. Dr. N.V. Gowtham Deekshithulu, Chairperson presided over the meeting.

Agenda 6.1: Welcome address by chairperson BOS.

Dr. N.V. Gowtham Deekshithulu, Chairperson of BOS, invited all the distinguished members of BOS to the VI BOS meeting.

Agenda 6.2: Discussion and ratification of the Vision and Mission of the agricultural engineering department and Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the Program under the Agricultural Engineering Department.

1. The BOS members accepted and ratified the Vision, Mission, Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the agricultural engineering department.
2. Suggested to equip students with the skills needed to adapt better to the changing global scenario and gain access to multiple career opportunities.

Agenda 6.3: Discussion on proposed AR19 B.Tech. (Ag.E) Program – IV & V semester syllabus and ratification of the same.

The BOS members approved AR19 B.Tech. (Ag.E) Program – IV & V semester syllabus after making the following changes in the proposed syllabi.

1. Suggested alignment and spacings to be corrected in Surface Water Hydrology.
2. Suggested to increase mass transfer syllabus in HMT subject and modification in CO 5.
3. Suggested to add numerical problems on mass balance studies in HMT lab.
4. Suggested to add double clutch, zero clutch in FPTS course.

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5. Suggested to check the alignment of lab experiments in order and add starting, stopping of tractor and driving of tractor in FPTS lab.
6. Suggested to add principles, practices of cold storage in TDRS course.
7. Suggested to add failure theory in Strength of materials course.
8. Suggested to add machine and structure in unit 1 and alignment of topics in order and removal of governors and addition of cam follower and springs topics in T&DAM course.
9. Suggested to align course objectives in order and add unit operations briefly under unit 1 in APE&FQ subject.
10. Suggested to add precession topic in MMI course.
11. Suggested to change "food grains, fruits and vegetables" to food commodities and aided products in EPBM course.
12. Suggested to add brief topics on organic farming, zero budget farming, vertical gardening, kitchen farming and specify the classification of few crops.

Agenda 6.4: Discussion on proposed AR20 B.Tech. (Ag.E) first year program structure and ratification of the same.

The BOS members approved AR20 B.Tech. (Ag.E) Program – I year course structure after making the following changes:

Suggested to keep Principles of Agronomy and Soil Science theory and lab subject in the I sem itself as it was a basic fundamental course.

Agenda 6.5: Discussion on proposed AR20 B.Tech. (Ag.E) Program – I & II semesters syllabus and ratification of the same.

The BOS members approved AR20 B.Tech. (Ag.E) Program – I & II semesters syllabus after making the following changes in the proposed syllabi.

1. Suggested to keep only basic functions of N, P and K nutrients.
2. Suggested to keep concise concepts of agronomy and soil science.
3. Suggested to add identification of manures and fertilizers experiment in Principles of Agronomy and Soil Science lab.

Agenda 6.6: Discussion on Mathematics courses in the IV Semester of AR19 B.Tech. (Ag.E), AR20 B.Tech. (Ag.E) I to IV Semesters and ratification of the same.

The BOS members approved the Mathematics courses in the IV Semester of AR19 B.Tech. (Ag.E), AR20 B.Tech. (Ag.E) I to IV Semesters after making the following changes:

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1. Suggested to add probability and distribution, sampling theory and tests of hypothesis concepts as separate units in NMST course.
2. Suggested to add new reference text books in ITAPDE and NMST courses.
3. Suggested to complete all the mathematics courses in I & II semesters for the next regulations.

Agenda 6.7: Discussion on Courses having focus on employability / entrepreneurship/skill development in the program of B.Tech (Ag.E) program and ratification of the same.

The BOS members approved the recommended employability/entrepreneurship/skill development recommended courses and ratified the same.

Proposed to recognize C and CAD lab as an employability/skill oriented courses.

Agenda 6.8: Discussion on the new courses offered in the B.Tech. (Ag.E) program and ratification of the same.

The BOS members have discussed and approved the new courses introduced in all the B.Tech. (Ag.E), program. The percentage of new courses introduced in the academic year 2020-2021 for B. Tech (Ag.E) is 15.56%. The list of new courses is enclosed as Annexure I.

Agenda 6.9: Discussion on the B.Tech. (Ag.E) program in which Choice Based Credit System(CBCS)/elective course system is being implemented and ratification of the same.

The BOS members recommended and ratified the B.Tech. (Ag.E) program in which Choice Based Credit System(CBCS)/elective course system.

The committee members advised to complete all the basic courses in the two years of B.Tech. (Ag.E) program and suggested to offer elective courses from the V semester according to the specialization.

Agenda 6.10: Discussion on the value-added courses offered for students and ratification of the same.

The BOS members approved the list of value-added courses offered to students and ratified the same.

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Agenda 6.11: Discussion on the percentage of syllabus revision done in B.Tech (Ag.E) the programs and ratification of the same.

- BoS members discussed and ratified the percentage revision in the courses. The percentage of courses revised in the academic year 2020-2021 for B. Tech (Ag.E) is 28.88%. The percentage of the courses revised is enclosed as Annexure II.

Agenda 6.12: Analysis of Results.

The BOS chairperson presented the results. The BOS members appreciated the faculty for achieving better pass percentages.

Agenda 6.13: Analysis of Students Feedback & Action Taken Report.

Student feedback and action report is presented by BOS Chairperson to the BOS members and BOS members approved the same.

Agenda 6.14: Analysis of Stakeholder's Feedback on Curriculum

The BoS chairperson presented the analysis report of Stakeholder's feedback on curriculum. The BOS members noted the same and advised to incorporate the suggestions as per the feasibility. The Action Taken Report is enclosed as Annexure III.

Agenda 6.15: Any other item/s with the approval of chairperson.

Suggested to keep professional core courses by increasing the credits.

Suggested to inculcate training programs for better job opportunities to the students.

Agenda 6.16: Scheduling of next BOS meeting.

After discussions with BOS members, the next BOS meeting will be planned in the month of September/October 2021.

Agenda 6.17: Vote of Thanks.

Dr. N.V. Gowtham Deekshithulu, BOS chairperson presented the Vote of thanks.

N.V. Gowd

BoS Chairperson
Head of the Department
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Annexure-I

List of New Courses in the Academic Year 2020-2021

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (Ag.E)	II	201ES2L12	Computer Aided Drafting Lab
2	B. Tech (Ag.E)	III	191ES3T10	Internet of Things
3	B. Tech (Ag.E)	III	191MC3A04	Essence of Indian Traditional Knowledge
4	B. Tech (Ag.E)	IV	191BS4T16	Numerical Methods& Statistical Techniques
5	B. Tech (Ag.E)	IV	191AG4L04	Ground Water Hydrology Lab
6	B. Tech (Ag.E)	IV	191AG4L06	Heat and Mass Transfer lab
7	B. Tech (Ag.E)	IV	191MC4A06	Biology for Engineers
8	B. Tech (Ag.E)	VII	171AG7E12	Aqua Cultural Engineering
9	B. Tech (Ag.E)	VII	171AG7E13	Soil Dynamics in Tillage and Traction
10	B. Tech (Ag.E)	VII	171AG7E14	Computational Fluid Dynamics
11	B. Tech (Ag.E)	VII	171AG7P01	Industry Oriented (Internship) Minor Project
12	B. Tech (Ag.E)	VIII	171AG8E15	Hydraulic Devices and Control
13	B. Tech (Ag.E)	VIII	171AG8O03	Mechatronics
14	B. Tech (Ag.E)	VIII	171AG8O05	Image Processing Techniques

N.V. Ged

BoS Chairperson

Head of the Department

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Annexure-II

List of Revised Courses in the Academic Year 2020-2021

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (Ag.E)	I	201ES1L04	Soil Science and Agronomy Field Lab
2	B. Tech (Ag.E)	III	191BS3T11	Integral Transforms and Applications of Partial Differential Equations
3	B. Tech (Ag.E)	III	191AG3L01	Principles of Agronomy and Soil Science Lab
4	B. Tech (Ag.E)	IV	191AG4L05	Farm Power and Tractor Systems Lab
5	B. Tech (Ag.E)	VII	171AG7T19	Farm Machinery and Equipment – II
6	B. Tech (Ag.E)	VII	171AG7E09	Seed Processing and Storage Engineering
7	B. Tech (Ag.E)	VII	171AG7E11	Food Packaging Technology
8	B. Tech (Ag.E)	VII	171AG7L06	Farm Machinery Lab – II
9	B. Tech (Ag.E)	VII	171AG7L07	Dairy and Food Engineering Lab
10	B. Tech (Ag.E)	VIII	171AG8E17	Design of Agricultural Machinery
11	B. Tech (Ag.E)	VIII	171AG8O02	Industrial Pollution Control Engineering
12	B. Tech (Ag.E)	VIII	171CS8O04	Operations Research

N.V. Gopi

BoS Chairperson

Head of the Department

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Annexure-III

Action Taken Report on Stakeholders Feedback in the Academic Year 2020-2021

S. No	Agenda Item No.	Stakeholders Recommended	Action Taken
1	6.15	Suggested to include Skill development courses to improve technical skills of students.	As per suggestions, Skill Oriented Courses will be included in the course curriculum.
2	6.11	Suggested to add courses which help them in industry sector.	As per suggestions, VACs will be selected and included in the course curriculum.
3	6.15	Suggested to include more industrial visits so, that students will gain practical knowledge.	As per suggestions, more industrial visits will be included in the coming semesters.
4		It is better to have MOU and placements with core industries.	As per suggestions and discussions made, necessary step will be initiated in coming years.
5		Suggested to elaborate HACCP concept in skill Oriented Course-Food Quality and Control.	As per suggestions, HACCP concept will be given in skill Oriented Course- Food Quality and Control.
6		Suggested to inculcate training programmes for better job opportunities to the students.	As per suggestions and discussions made, necessary step will be taken
7		For better understanding of Heat and Mass Transfer course, practical knowledge is required.	As per suggestions, Heat and Mass Transfer Lab will be included in course curriculum.
8		Suggested to include more advanced courses to merit students to enhance their knowledge	As per suggestions, Honor and minor courses will be included in course curriculum.
9		Suggested to add simulation topics in Computer Aided Manufacturing course.	As per suggestions, simulation topics will be included in Computer Aided Manufacturing course.
10	6.14	Requested to provide career guidance and expert talks by industrialists.	As per suggestions, Alumni meets, and guest lectures will be included.

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11		Suggested to add new textbooks and reference books in Integral Transforms and Applications of Partial Differential Equations.	As per suggestions, new textbooks and reference books will be included in Integral Transforms and Applications of Partial Differential Equations
12		Suggested to reduce syllabus in Irrigation and Drainage Engineering.	As per .suggestions and discussions made, topics of Lacey's and Kennedy's theory removed in design of irrigation canal capacity in Irrigation and Drainage Engineering.

N.V.God

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