

# **COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY**

**NAVSARI AGRICULTURAL UNIVERSITY,  
DEDIAPADA**



**-: CURRICULA & SYLLABI:-  
2017-18**

**B.TECH.(AGRICULTURAL ENGINEERING)**

# **FIFTH DEANS' COMMITTEE REPORT**



**AGRICULTURAL EDUCATION DIVISION  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH  
KRISHI ANUSANDHAN BHAWAN-II  
PUSA, NEW DELHI - 110012**

**B.Tech. (Agril.Engg.) Courses as per Vth Dean(Syllabus effective from Academic Year 2017-18)**

No.	Course No.	Title of the Course	Credit Hour	Remarks
<b>Semester I</b>				
1.	<b>Math(E)-1.1.1</b>	Engineering Mathematics-I	3(2+1)	
2.	<b>Phy(E)-1.1.2</b>	Engineering Physics	3(2+1)	
3.	<b>Chem(E)-1.1.3</b>	Engineering Chemistry	3(2+1)	
4.	<b>Ag(E)-1.1.4</b>	Principles of Soil Science	3(2+1)	
5.	<b>CE-1.1.5</b>	Surveying and Levelling	3(1+2)	
6.	<b>CE-1.1.6</b>	Engineering Mechanics	3(2+1)	
7.	<b>ME-1.1.7</b>	Engineering Drawing	2(0+2)	
8.	<b>ME-1.1.8</b>	Heat and Mass Transfer	2(2+0)	
9.	<b>Phy. Edu.-1.1.9</b>	NSS/NCC/Physical Education	0(0+1*)	
<b>Total</b>			<b>22(13+9)</b>	
<b>Semester II</b>				
1.	<b>Math(E)-1.2.1</b>	Engineering Mathematics-II	3(2+1)	
2.	<b>AS(E)-1.2.2</b>	Environmental Science and Disaster Management	3(2+1)	
3.	<b>AS(E)-1.2.3</b>	Entrepreneurship Development and Business Management	3(2+1)	
4.	<b>CE-1.2.4</b>	Fluid Mechanics and Open Channel Hydraulics	3(2+1)	
5.	<b>CE-1.2.5</b>	Strength of Materials	2(1+1)	
6.	<b>ME-1.2.6</b>	Workshop Technology and Practices	3(1+2)	
7.	<b>ME-1.2.7</b>	Theory of Machines	2(2+0)	
8.	<b>CSE-1.2.8</b>	Web Designing and Internet Applications	2(1+1)	
9.	<b>Phy. Edu.-1.2.9</b>	NSS/NCC/Physical Education	0(0+1*)	
<b>Total</b>			<b>21(13+8)</b>	
<b>Semester III</b>				
No.	Course No.	Title of the Course	Credit Hour	Remarks
1.	<b>Ag(E)-2.3.1</b>	Principles of Horticultural Crops and Plant Protection	2(1+1)	
2.	<b>Ag(E)-2.3.2</b>	Principles of Agronomy	3(2+1)	
3.	<b>AS(E)-2.3.3</b>	Communication Skills and Personality Development	2(1+1)	
4.	<b>Math(E)-2.3.4</b>	Engineering Mathematics-III	3(2+1)	
5.	<b>CE-2.3.5</b>	Soil Mechanics	2(1+1)	
6.	<b>CE-2.3.6</b>	Design of Structures	2(1+1)	
7.	<b>ME-2.3.7</b>	Machine Design	2(2+0)	
8.	<b>ME-2.3.8</b>	Thermodynamics, Refrigeration and Air Conditioning	3(2+1)	
9.	<b>EE-2.3.9</b>	Electrical Machines and Power Utilization	3(2+1)	

10.	<b>Phy. Edu. – 2.3.10</b>	NSS/NCC/Physical Education	0(0+1*)	
<b>Total</b>			<b>22(14+8)</b>	
<b>Semester IV</b>				
1.	<b>CE-2.4.1</b>	Building Construction and Cost Estimation	2(2+0)	
2.	<b>ME-2.4.2</b>	Auto CAD Applications	2(0+2)	
3.	<b>EE-2.4.3</b>	Applied Electronics and Instrumentation	3(2+1)	
4.	<b>FMPE-2.4.4</b>	Tractor and Automotive Engines	3(2+1)	
5.	<b>PFE-2.4.5</b>	Engineering Properties of Agricultural Produce	2(1+1)	
6.	<b>SWCE-2.4.6</b>	Watershed Hydrology	2(1+1)	
7.	<b>IDE-2.4.7</b>	Irrigation Engineering	3(2+1)	
8.	<b>IDE-2.4.8</b>	Sprinkler and Micro Irrigation Systems	2(1+1)	
9.	<b>REE-2.4.9</b>	Fundamentals of Renewable Energy Sources	3(2+1)	
10	<b>Phy.Edu.-2.4.10</b>	NSS/NCC/Physical Education	0(0+1*)	
<b>Total</b>			<b>22(13+9)</b>	
<b>V Semester</b>				
1.	<b>FMPE-3.5.1</b>	Farm Machinery and Equipment-I	3(2+1)	
2.	<b>FMPE-3.5.2</b>	Tractor Systems and Controls	3(2+1)	
3.	<b>PFE-3.5.3</b>	Agricultural Structures and Environmental Control	3(2+1)	
4.	<b>PFE-3.5.4</b>	Post Harvest Engineering of Cereals, Pulses and Oil Seeds	3(2+1)	
5.	<b>SWCE-3.5.5</b>	Soil and Water Conservation Engineering	3(2+1)	
6.	<b>SWCE-3.5.6</b>	Watershed Planning and Management	2(1+1)	
7.	<b>IDE-3.5.7</b>	Drainage Engineering	2(1+1)	
8.	<b>REE-3.5.8</b>	Renewable Power Sources	3(2+1)	
9.	<b>CAE-3.5.9</b>	Skill Development Training-I (Student READY) Registration only	5(0+5)	
<b>Total</b>			<b>27(14+13)</b>	
<b>VI Semester</b>				
<b>No.</b>	<b>Course No.</b>	<b>Title of the Course</b>	<b>Credit Hour</b>	<b>Remarks</b>
1.	<b>CSE-3.6.1</b>	Computer Programming and Data Structures	3(1+2)	
2.	<b>FMPE-3.6.2</b>	Farm Machinery and Equipment-II	3(2+1)	
3.	<b>PFE-3.6.3</b>	Post Harvest Engineering of Horticultural Crops	2(1+1)	
4.	<b>SWCE-3.6.4</b>	Water Harvesting and Soil Conservation Structures	3(2+1)	
5.	<b>IDE-3.6.5</b>	Groundwater, Wells and Pumps	3(2+1)	
6.	<b>FMPE-3.6.6</b>	Tractor and Farm Machinery Operation and Maintenance	2(0+2)	
7.	<b>PFE-3.6.7</b>	Dairy and Food Engineering	3(2+1)	
8.	<b>REE-3.6.8</b>	Bio-energy Systems: Design and Applications	3(2+1)	

<b>Total</b>			<b>22(12+10)</b>	
<b>VII Semester</b>				
<b>VII Semester Student READY (Rural and Entrepreneurship Awareness Development Yojana)</b>				
1.	<b>CAE-4.7.1</b>	10- weeks Industrial Attachment /Internship (Student READY)	10(0+10)	
2.	<b>CAE-4.7.2</b>	10- weeks Experiential Learning On campus (Student READY)	10(0+10)	
3.	<b>CAE-4.7.3</b>	Skill Development Training-II (Student READY) Registration only	5(0+5)	
4.	<b>CAE-4.7.4</b>	Educational Tour (Registration only)	2 (0+2)	
<b>Total</b>			<b>27(0+27)</b>	
<b>VIII Semester</b>				
<b>VIII Semester Student READY (Rural and Entrepreneurship Awareness Development Yojana)</b>				
1.		Elective course	3(2+1)	
2.		Elective course	3(2+1)	
3.		Elective course	3(2+1)	
4.	<b>CAE-4.8.4</b>	Project Planning and Report Writing (Student READY)	10(0+10)	
<b>Total</b>			<b>19(6+13)</b>	
<b>Grand Total I to VIII semesters</b>			<b>182(85+97)</b>	
<b>Elective Courses (Any 3 courses) 9 (6+3)</b>				
1	<b>SWCE-4.8.1</b>	Floods and Control Measures	3(2+1)	
2	<b>SWCE-4.8.2</b>	Wasteland Development	3(2+1)	
3	<b>SWCE-4.8.3</b>	Information Technology for Land and Water Management	3(2+1)	
4	<b>SWCE-4.8.4</b>	Remote Sensing and GIS Applications	3(2+1)	
5	<b>IDE-4.8.5</b>	Management of Canal Irrigation System	3(2+1)	
6	<b>IDE-4.8.6</b>	Minor Irrigation and Command Area Development	3(2+1)	
<b>No.</b>	<b>Course No.</b>	<b>Title of the Course</b>	<b>Credit Hour</b>	<b>Remarks</b>
7	<b>IDE-4.8.7</b>	Precision Farming Techniques for Protected Cultivation	3(2+1)	
8	<b>IDE-4.8.8</b>	Water Quality and Management Measures	3(2+1)	
9	<b>IDE-4.8.9</b>	Landscape Irrigation Design and Management	3(2+1)	
10	<b>REE-4.8.10</b>	Plastic Applications in Agriculture	3(2+1)	
11	<b>FMPE-4.8.11</b>	Mechanics of Tillage and Traction	3(2+1)	
12	<b>FMPE-4.8.12</b>	Farm Machinery Design and Production	3(2+1)	
13	<b>FMPE-4.8.13</b>	Human Engineering and Safety	3(2+1)	
14	<b>FMPE-4.8.14</b>	Tractor Design and Testing	3(2+1)	
15	<b>FMPE-4.8.15</b>	Hydraulic Drives and Controls	3(2+1)	
16	<b>FMPE-4.8.16</b>	Precision Agriculture and System Management	3(2+1)	
17	<b>PFE-4.8.17</b>	Food Quality and Control	3(2+1)	

18	<b>PFE-4.8.18</b>	Food Plant Design and Management	3(2+1)	
19	<b>PFE-4.8.19</b>	Food Packaging Technology	3(2+1)	
20	<b>PFE-4.8.20</b>	Development of Processed Products	3(2+1)	
21	<b>PFE-4.8.21</b>	Process Equipment Design	3(2+1)	
22	<b>REE-4.8.22</b>	Photovoltaic Technology and Systems	3(2+1)	
23	<b>REE-4.8.23</b>	Waste and By-products Utilization	3(2+1)	
24	<b>CSE-4.8.24</b>	Artificial Intelligence	3(3+0)	
25	<b>ME-4.8.25</b>	Mechatronics	3(2+1)	
26	<b>REE-4.8.26</b>	Energy Conservation and Audit in Agricultural Industry	3(2+1)	
			<b>143 (87+56)</b>	