

1. Department wise list of courses, course numbers and credit hours

Sl. No.	Course Number	Title of the Course	Credit hours
I. Farm Machinery and Power Engineering (FMPE)			
1	FMPE 111	Engineering Drawing	2(0+2)
2	FMPE 112	Theory of Machines	2(2+0)
3	FMPE 113	Workshop Technology and Practices	3(1+2)
4	FMPE 211	Machine Design	2(2+0)
5	FMPE 212	Auto CAD Applications	2(0+2)
6	FMPE 213	Tractor and Automotive Engines	3(2+1)
7	FMPE 311	Farm Machinery and Equipment-I	3(2+1)
8	FMPE 312	Tractor Systems and Controls	3(2+1)
9	FMPE 313	Farm Machinery and Equipment-II	3(2+1)
10	FMPE 314	Tractor and Farm Machinery Operation and Maintenance	2(0+2)
Total			25(13+12)
II. Irrigation and Drainage Engineering (IRDE)			
1	IRDE 221	Fluid Mechanics and Open Channel Hydraulics	3(2+1)
2	IRDE 222	Irrigation Engineering	3(2+1)
3	IRDE 223	Sprinkler and Micro Irrigation Systems	2(1+1)
4	IRDE 321	Drainage Engineering	2(1+1)
5	IRDE 322	Groundwater, Wells and Pumps	3(2+1)
Total			13(8+5)
III. Processing and Food Engineering (PRFE)			
1	PRFE 231	Engineering Properties of Agricultural Produce	2(1+1)
2	PRFE 232	Heat and Mass Transfer	2(2+0)
3	PRFE 233	Thermodynamics, Refrigeration and Air Conditioning	3(2+1)
4	PRFE 234	Post Harvest Engineering of Cereals, Pulses and Oil Seeds	3(2+1)
5	PRFE 331	Agricultural Structures and Environmental Control	3(2+1)
6	PRFE 332	Dairy and Food Engineering	3(2+1)
7	PRFE 333	Post Harvest Engineering of Horticultural Crops	2(1+1)
Total			18(12+6)
IV. Renewable Energy Engineering (RNEE)			
1	RNEE 241	Electrical Machines and Power Utilization	3(2+1)
2	RNEE 242	Fundamentals of Renewable Energy Sources	3(2+1)
3	RNEE 341	Renewable Power Sources	3(2+1)
4	RNEE 342	Bio-energy Systems: Design and Applications	3(2+1)
Total			12(8+4)
V. Soil and Water Conservation Engineering (SWCE)			
1	SWCE 151	Engineering Mechanics	3(2+1)
2	SWCE 152	Surveying and Levelling	3(1+2)

3	SWCE 153	Soil Mechanics	2(1+1)
4	SWCE 154	Strength of Materials	2(1+1)
5	SWCE 251	Design of Structures	2(1+1)
6	SWCE 252	Building Construction and Cost Estimation	2(2+0)
7	SWCE 253	Watershed Hydrology	2(1+1)
8	SWCE 351	Soil and Water Conservation Engineering	3(2+1)
9	SWCE 352	Watershed Planning and Management	2(1+1)
10	SWCE 353	Water Harvesting and Soil Conservation Structures	3(2+1)
Total			24(14+10)
VI. Student Ready Programmes			
1	READY 261	Skill Development Training-I (Student READY) Registration only	5(0+5)
2	READY 361	Skill Development Training-II (Student READY) Registration only	5(0+5)
3	READY 461	10 weeks Industrial Attachment /Internship (Student READY)	10(0+10)
4	READY 462	10 weeks Experiential Learning / Hands on Training (Student READY)	10(0+10)
5	READY 463	Educational Tour (Registration only)	2 (0+2)
6	READY 464	Project Work, Planning and Report Writing (Student READY)	10(0+10)
Total			42(0+42)
VII. Applied Agriculture and Basic Sciences (AABS)			
1	AABS 101	Engineering Mathematics-I	3(2+1)
2	AABS 102	Engineering Physics	3(2+1)
3	AABS 103	Engineering Chemistry	3(2+1)
4	AABS 104	Communication Skills and Personality Development	2(1+1)
5	AABS 105	Principles of Soil Science	3(2+1)
6	AABS 106	Engineering Mathematics-II	3(2+1)
7	AABS 107	Environmental Science and Disaster Management	3(2+1)
8	AABS 108	Principles of Agronomy	3(2+1)
9	AABS 109	Web Designing and Internet Applications	2(1+1)
10	AABS 201	Computer Programming and Data Structures	3(1+2)
11	AABS 202	Engineering Mathematics-III	3(2+1)
12	AABS 203	Principles of Horticultural Crops and Plant Protection	2(1+1)
13	AABS 301	Applied Electronics and Instrumentation	3(2+1)
14	AABS 302	Entrepreneurship Development and Business Management	3(2+1)
Total			39(24+15)

2.Semester wise course numbers, courses, and credit hours

Sl. No.	Course number	Course title	Credit hours
I Semester			
1	AABS 101	Engineering Mathematics-I	3(2+1)
2	AABS 102	Engineering Physics	3(2+1)
3	AABS 103	Engineering Chemistry	3(2+1)
4	AABS 104	Communication Skills and Personality Development	2(1+1)
5	AABS 105	Principles of Soil Science	3(2+1)
6	FMPE 111	Engineering Drawing	2(0+2)
7	SWCE 151	Engineering Mechanics	3(2+1)
8	SWCE 152	Surveying and Levelling	3(1+2)
	COCA 100	NSS/NCC (Non-gradual)	1(0+1)
Total			22(12+10)
II Semester			
1	AABS 106	Engineering Mathematics-II	3(2+1)
2	AABS 107	Environmental Science and Disaster Management	3(2+1)
3	AABS 108	Principles of Agronomy	3(2+1)
4	AABS 109	Web Designing and Internet Applications	2(1+1)
5	FMPE 112	Theory of Machines	2(2+0)
6	FMPE 113	Workshop Technology and Practices	3(1+2)
7	SWCE 153	Soil Mechanics	2(1+1)
8	SWCE 154	Strength of Materials	2(1+1)
	COCA 200	Physical Education (Non- gradual)	1(0+1)
Total			20(12+8)
III Semester			
1	AABS 201	Computer Programming and Data Structures	3(1+2)
2	FMPE 211	Machine Design	2(2+0)
3	IRDE 221	Fluid Mechanics and Open Channel Hydraulics	3(2+1)
4	IRDE 222	Irrigation Engineering	3(2+1)
5	PRFE 231	Engineering Properties of Agricultural Produce	2(1+1)
6	PRFE 232	Heat and Mass Transfer	2(2+0)
7	PRFE 233	Thermodynamics, Refrigeration and Air Conditioning	3(2+1)
8	RNEE 241	Electrical Machines and Power Utilization	3(2+1)
9	SWCE 251	Design of Structures	2(1+1)
	COCA 300	Yoga, Ethics and Moral Education (Non- gradual)	1(0+1)
Total			23(15+8)

IV Semester			
1	AABS 202	Engineering Mathematics-III	3(2+1)
2	AABS 203	Principles of Horticultural Crops and Plant Protection	2(1+1)
3	FMPE 212	Auto CAD Applications	2(0+2)
4	FMPE 213	Tractor and Automotive Engines	3(2+1)
5	IRDE 223	Sprinkler and Micro Irrigation Systems	2(1+1)
6	PRFE 234	Post Harvest Engineering of Cereals, Pulses and Oil Seeds	3(2+1)
7	RNEE 242	Fundamentals of Renewable Energy Sources	3(2+1)
8	SWCE 252	Building Construction and Cost Estimation	2(2+0)
9	SWCE 253	Watershed Hydrology	2(1+1)
10	READY 261	Skill Development Training-I (Student READY) Registration only (one month)	5(0+5)
Total			27(13+14)
V Semester			
1	AABS 301	Applied Electronics and Instrumentation	3(2+1)
2	FMPE 311	Farm Machinery and Equipment-I	3(2+1)
3	FMPE 312	Tractor Systems and Controls	3(2+1)
4	IRDE 321	Drainage Engineering	2(1+1)
5	PRFE 331	Agricultural Structures and Environmental Control	3(2+1)
6	RNEE 341	Renewable Power Sources	3(2+1)
7	SWCE 351	Soil and Water Conservation Engineering	3(2+1)
8	SWCE 352	Watershed Planning and Management	2(1+1)
Total			22(14+8)
VI Semester			
1	AABS 302	Entrepreneurship Development and Business Management	3(2+1)
2	FMPE 313	Farm Machinery and Equipment-II	3(2+1)
3	FMPE 314	Tractor and Farm Machinery Operation and Maintenance	2(0+2)
4	IRDE 322	Groundwater, Wells and Pumps	3(2+1)
5	PRFE 332	Dairy and Food Engineering	3(2+1)
6	PRFE 333	Post Harvest Engineering of Horticultural Crops	2(1+1)
7	RNEE 342	Bio-energy Systems: Design and Applications	3(2+1)
8	SWCE 353	Water Harvesting and Soil Conservation Structures	3(2+1)
9	READY 361	Skill Development Training-II (Student READY) Registration only (one month)	5(0+5)
Total			27(13+14)

VII Semester			
1	READY 461	12 weeks Industrial Attachment /Internship (Student READY)	10(0+10)
2	READY 462	12 weeks Experiential Learning / Hands on Training (Student READY)	10(0+10)
3	READY 463	Educational Tour (Registration only)	2 (0+2)
Total			22(0+22)
VIII Semester			
1	DEPT	Elective course	3(2+1)
2	DEPT	Elective course	3(2+1)
3	DEPT	Elective course	3(2+1)
4	READY 464	Project Work, Planning and Report Writing (Student READY)	10(0+10)
Total			19(6+13)
Grand Total			182(85+97)

Elective courses

Sl. No.	Course number	Course title	Credit hours
1	FMPE 411	Mechanics of Tillage and Traction	3 (2+1)
2	FMPE 412	Farm Machinery Design and Production	3 (2+1)
3	FMPE 413	Human Engineering and Safety	3 (2+1)
4	FMPE 414	Tractor Design and Testing	3 (2+1)
5	FMPE 415	Hydraulic Drives and Controls	3 (2+1)
6	FMPE 416	Precision Agriculture and System Management	3 (2+1)
7	FMPE 417	Artificial Intelligence	3 (3+0)
8	FMPE 418	Mechatronics	3 (2+1)
9	IRDE 421	Management of Canal Irrigation System	3 (2+1)
10	IRDE 422	Minor Irrigation and Command Area Development	3 (2+1)
11	IRDE 423	Precision Farming Techniques for Protected Cultivation	3 (2+1)
12	IRDE 424	Water Quality and Management Measures	3 (2+1)
13	IRDE 425	Landscape Irrigation Design and Management	3 (2+1)
14	IRDE 426	Plastic Applications in Agriculture	3 (2+1)
15	PRFE 431	Food Quality and Control	3 (2+1)
16	PRFE 432	Food Plant Design and Management	3 (2+1)
17	PRFE 433	Food Packaging Technology	3 (2+1)
18	PRFE 434	Development of Processed Products	3 (2+1)
19	PRFE 435	Process Equipment Design	3 (2+1)
20	RNEE 441	Photovoltaic Technology and Systems	3 (2+1)
21	RNEE 442	Waste and By-products Utilization	3 (2+1)
22	SWCE 451	Floods and Control Measures	3 (2+1)
23	SWCE 452	Wasteland Development	3 (2+1)
24	SWCE 453	Information Technology for Land and Water Management	3 (2+1)
25	SWCE 454	Remote Sensing and GIS Applications	3 (2+1)

