



## ACADEMIC PROGRAM (Appendix I)

### Semester Wise Course Distribution as per Sixth Dean's Committee

Sr. No.	Course number	Course Title	Credit Hours	Total Credit Hours
<b>First Year</b>				
<b>Semester - I</b>				
1.	FC 1.1	<i>Deeksharambh</i> (Induction-cum-Foundation Program)	2 (0+2) (Non gradial)	<b>22 (11+11) (+2 NG)</b>
2.	FRM 1.1	Introduction to Forest Resources	3 (2+1)	
3.	FBTI 1.1	Forest Plant Biology	3 (2+1)	
4.	SAF 1.1	Silviculture – Principles and Practices	3 (2+1)	
5.	SAF 1.2	Agroforestry Systems and Management	3 (2+1)	
6.	SEC I	Skill Enhancement Courses (SEC-I)*	4 (0+4)	
7.	MDC 1.1	Farming Based Livelihood Systems	3 (2+1)	
8.	AEC 1.1	NCC-I/NSS-I	1 (0+1)	
9.	AEC 1.2	Communication Skills	2 (1+1)	
<b>Semester - II</b>				
1.	FBTI 2.1	Tree Seed and Nursery Technology	3 (1+2)	<b>23 (10+13)</b>
2.	FBTI 2.2	Fundamental of Forest Genetics	2 (1+1)	
3.	FPU 2.1	Wood Anatomy and Identification	2 (1+1)	
4.	FRM 2.1	Forest Measurements and Inventory	3 (2+1)	
5.	AEC 2.1	Personality Development	2 (1+1)	
6.	VAC 2.1	Environmental Studies and Disaster Management	3 (2+1)	
7.	SEC II	Skill Enhancement Courses (SEC-II) **	4 (0+4)	
8.	AEC 2.2	NCC-II/NSS-II**	1 (0+1)	
9.	MDC 2.1	Entrepreneurship Development and Business Development	3 (2+1)	
<b>Post- II Semester Internship (Only for exit option for award of UG-Certificate)</b>				
1.	FINTS 2.1	Internship (10 weeks)	10 (0+10)***	<b>10 (0+10)***</b>
<b>Second Year</b>				
<b>Semester III</b>				
1.	SAF 3.1	Silviculture of Trees	2 (2+0)	<b>21 (11+10)</b>
2.	FPU 3.1	Wood Science and Technology	2 (1+1)	
3.	FRM 3.1	Forest Microbiology	2 (1+1)	
4.	FRM 3.2	Forest Soil and Nutrient Management	2 (1+1)	
5.	FRM 3.3	Forest Survey and Engineering	2 (1+1)	
6.	WLS 3.1	Wildlife Sciences	3 (2+1)	
7.	FRM 3.4	Forest Health and Protection	2 (1+1)	
8.	SAF 3.2	Arboriculture	2 (1+1)	
9.	AEC 3.1	Physical Education, First Aid, Yoga practices and Meditation	2 (0+2)	



10.	SEC III	Skill Enhancement Courses (SEC-III)****	2 (0+2)	
<b>Semester IV</b>				
1.	FPU 4.1	Commercial Forest Products and Utilization	3 (2+1)	<b>20 (12+8)</b>
2.	FRM 4.1	Forest Ecology and Management	3 (2+1)	
3.	FPU 4.2	Tree Harvesting and Ergonomics	2 (1+1)	
4.	FRM 4.2	Forest Policy and Legislation	2 (2+0)	
5.	FRM 4.3	Statistical Methods	2 (1+1)	
6.	MDC 4.1	Agricultural Marketing and Trade	3 (2+1)	
7.	VAC 4.1	Agricultural Informatics and Artificial Intelligence	3 (2+1)	
8.	SEC IV	Skill Enhancement Courses (SEC-IV)*****	2 (0+2)	
<b>Post- IV Semester Internship (Only for exit option for award of UG-Diploma)</b>				
1.	FINTS 4.1	Internship (10 weeks)	10 (0+10)***	<b>10 (0+10)***</b>
<b>Third Year</b>				
<b>Semester V</b>				
1.	FBTI 5.1	Tree Physiology	2 (1+1)	<b>21 (13+8) + 2 NG</b>
2.	SAF 5.1	Plantation Forestry	3 (2+1)	
3.	FBTI 5.2	Tree Improvement	3 (2+1)	
4.	FRM 5.1	Forest Resource Management	2 (1+1)	
5.	FPU 5.1	Non-Timber Forest Products	3 (2+1)	
6.	FRM 5.2	Forest Pest and Diseases	3 (2+1)	
7.	FBTI 5.3	Forest Biotechnology	3 (2+1)	
8.	SAF 5.2	Industrial Agroforestry	2 (1+1)	
9.	FST 5.1	Study tour	2 (0+2) Non- Gradial	
<b>Semester VI</b>				
1.	WLS 6.1	Wildlife and Protected Area Management	3 (2+1)	<b>20 (13+7)</b>
2.	FRM 6.1	Forest Economics and Marketing	2 (1+1)	
3.	FRM 6.2	Watershed Planning and Management	2 (1+1)	
4.	FRM 6.3	Forest Tribology, Ethno-medicine and Extension	3 (2+1)	
5.	FRM 6.4	Remote Sensing and GIS	2 (1+1)	
6.	FRM 6.5	Forest Business Management	2 (1+1)	
7.	FRM 6.6	Forest Landscape Restoration (FLR)	2 (2+0)	
8.	FPU 6.1	Forest Biomass Energy and Biofuels	2 (1+1)	
9.	SAF 6.1	Trees Outside Forests	2 (2+0)	



Fourth Year				
Semester VII				
Elective Courses (Any of the following courses may be taken as electives)				
1.	EC 7.1	Plantation Forestry	20	20
2.	EC 7.2	Multifunctional Agroforestry	20	
3.	EC 7.3	High Yielding Short Rotation Forestry	20	
4.	EC 7.4	Forest Product Development and Utilization	20	
5.	EC 7.5	Forest Resource Management and Utilization	20	
Semester VIII				
1.	<b>Internship/ Project / Students READY Program</b>		20	167 + 10***** (MOOC) + 4 (NG)
	FSRP 8.1	Students READY Program	0+10	
	FINTS 8.2 FPR 8.3	Internship <b>OR</b> Project	0+10	
		On-line courses (MOOC)	10	

\*From the bouquet of available SEC-I modules

\*\*From the bouquet of available SEC-II modules

\*\*\* Mandatory requirement for UG-Certificate. (On exit, the students will be eligible to be awarded UG-Certificate in Forestry)

\*\*\*\*From the basket of available SEC-III modules (2 credits)

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\*\*\*\*\*Compulsory Internship for students exercising exit option (UG-Diploma) after II<sup>nd</sup>Year

\*\*\*\*\*On-line courses (MOOC); NG-Non Gradual



## Department / Section Wise Course Breakup (Appendix I)

Sr. No.	Course Title	Course Number	Credit hours	Total Credit Hours
<b>A) CORE COURSES</b>				
<b>Silviculture and Agroforestry</b>				
1	Silviculture – Principles and Practices	SAF 1.1	3 (2+1)	<b>17 (12+5)</b>
2	Silviculture of Trees	SAF 3.1	2 (2+0)	
3	Plantation Forestry	SAF 5.1	3 (2+1)	
4	Agroforestry Systems and Management	SAF 1.2	3 (2+1)	
5	Industrial Agroforestry	SAF 5.2	2 (1+1)	
6	Arboriculture	SAF 3.2	2 (1+1)	
7	Trees Outside Forests	SAF 6.1	2 (2+0)	
<b>Forest Biology and Tree Improvement</b>				
1	Forest Plant Biology	FBTI 1.1	3 (2+1)	<b>16 (9+7)</b>
2	Tree Seed and Nursery Technology	FBTI 2.1	3 (1+2)	
3	Fundamental of Forest Genetics	FBTI 2.2	2 (1+1)	
4	Tree Physiology	FBTI 5.1	2 (1+1)	
5	Tree Improvement	FBTI 5.2	3 (2+1)	
6	Forest Biotechnology	FBTI 5.3	3 (2+1)	
<b>Forest Products and Utilization</b>				
1	Wood Anatomy and Identification	FPU 2.1	2 (1+1)	<b>15 (9+6)</b>
2	Wood Science and Technology	FPU 3.1	2 (1+1)	
3	Commercial Forest Products and Utilization	FPU 4.1	3 (2+1)	
4	Tree Harvesting and Ergonomics	FPU 4.2	2 (1+1)	
5	Non-Timber Forest Products	FPU 5.1	3 (2+1)	
6	Forest Biomass Energy and Biofuels	FPU 6.1	3 (2+1)	
<b>Wildlife Sciences</b>				
1	Wildlife Sciences	WLS 3.1	3 (2+1)	<b>6 (4+2)</b>
2	Wildlife and Protected Area Management	WLS 6.1	3 (2+1)	
<b>Forest Resource Management</b>				
1	Introduction to Forest Resources	FRM 1.1	3 (2+1)	<b>40 (24+16)</b>
2	Forest Measurements and Inventory	FRM 2.1	3 (2+1)	
3	Forest Ecology and Management	FRM 4.1	3 (2+1)	
4	Forest Health and Protection	FRM 3.4	2 (1+1)	
5	Forest Resource Management	FRM 5.1	2 (1+1)	
6	Forest Tribology, Ethno-medicine and Extension	FRM 6.3	3 (2+1)	
7	Forest Landscape Restoration (FLR)	FRM 6.6	2 (2+0)	
8	Forest Policy and Legislation	FRM 4.2	2 (2+0)	
9	Forest Soil and Nutrient Management	FRM 3.2	2 (1+1)	



10	Forest Economics and Marketing	FRM 6.1	2 (1+1)	
11	Forest Business Management	FRM 6.5	2 (1+1)	
12	Remote Sensing and GIS	FRM 6.4	2 (1+1)	
13	Forest Microbiology	FRM 3.1	2 (1+1)	
14	Forest Survey and Engineering	FRM 3.3	2 (1+1)	
15	Forest Pest and Diseases	FRM 5.2	3 (2+1)	
16	Watershed Planning and Management	FRM 6.2	2 (1+1)	
17	Statistical Methods	FRM 4.3	2 (1+1)	
<b>ELECTIVE COURSES</b>				
<b>i) Plantation Forestry – EC 7.1</b>				
1	Commercial tree seedling production	EC 7.1.1	3 (1+2)	<b>Student can take 20 credits from any one elective</b>
2	Commercial plantation development and management	EC 7.1.2	3 (2+1)	
3	Forest growth modelling	EC 7.1.3	2 (1+1)	
4	Marketing and certification of wood products	EC 7.1.4	2 (1+1)	
5	Restoration of degraded lands	EC 7.1.5	3 (2+1)	
6	Dendro-biomass and energy plantation	EC 7.1.6	3 (2+1)	
7	Plantation and climate change mitigation	EC 7.1.7	3 (2+0)	
8	Plant Biochemistry	EC 7.1.8	2 (1+1)	
9	Research Methodology	EC 7.1.9	2 (1+1)	
10	Statistical Packages for Data Analysis	EC 7.1.10	1 (0+1)	
11	Internship with forest plantations-based institutions/plantation companies	EC 7.1.11	2 (0+2)	
<b>ii) Multi-Functional Agroforestry – EC 7.2</b>				
1	Agroforestry system	EC 7.2.1	3 (2+1)	<b>Student can take 20 credits from any one elective</b>
2	Interactions in Agroforestry Systems	EC 7.2.2	2 (1+1)	
3	Agroforestry and Climate Change Mitigation	EC 7.2.3	2 (2+0)	
4	Industrial agroforestry	EC 7.2.4	3 (2+1)	
5	Ecotourism	EC 7.2.5	3 (2+1)	
6	Dendro-biomass and energy plantation	EC 7.2.6	3 (2+1)	
7	Introduction to Agronomy and Crop Production Technology	EC 7.2.7	3 (2+1)	
8	Plant Biochemistry	EC 7.1.8	2 (1+1)	
9	Research Methodology	EC 7.1.9	2 (1+1)	
10	Statistical Packages for Data Analysis	EC 7.1.10	1 (0+1)	
11	Agroforestry business incubation	EC 7.2.8	2 (1+1)	
12	Internship with agroforestry-based institutions/industries	EC 7.1.11	2 (0+2)	
<b>iii) High Yielding Short Rotation (HYSR) forestry – EC 7.3</b>				
1	Applied Tree Improvement	EC 7.3.1	3 (2+1)	<b>Student can take 20 credits from any</b>
2	Reproduction biology of tree crops	EC 7.3.2	3 (2+1)	
3	Biometrical genetics in tree breeding	EC 7.3.3	2 (1+1)	
4	Marker assisted breeding in forestry	EC 7.3.4	3 (2+1)	
5	Tissue culture application in forestry	EC 7.3.5	3 (1+2)	



6	Controlled breeding in tree crops	EC 7.3.6	2 (0+2)	one elective
7	Tree seed orchards	EC 7.3.7	3 (2+1)	
8	Forest genetic resources	EC 7.3.8	2 (2+0)	
9	Clonal Forestry	EC 7.3.9	2 (1+1)	
10	Plant Biochemistry	EC 7.1.8	2 (1+1)	
11	Research Methodology	EC 7.1.9	2 (1+1)	
12	Statistical Packages for Data Analysis	EC 7.1.10	1 (0+1)	
13	Internship with tree breeding and biotechnology-based institutions/ industries	EC 7.1.11	2 (0+2)	
<b>iv) Wood and NWFPs Product Development and Utilization – EC 7.4</b>				
1	Wood identification	EC 7.4.1	2 (0+2)	Student can take 20 credits from any one elective
2	Wood physics and chemistry	EC 7.4.2	3 (2+1)	
3	Forest products laboratory techniques	EC 7.4.3	2 (0+2)	
4	Wood seasoning and preservation	EC 7.4.4	3 (1+2)	
5	Wood working and carpentry	EC 7.4.5	2 (0+2)	
6	Composite wood technology	EC 7.4.6	3 (2+1)	
7	Non-wood forest products and value addition technology	EC 7.4.7	3 (2+1)	
8	Ethnobotany, Medicinal and Aromatic plants	EC 7.4.8	3 (2+1)	
9	Certification of Forest Products	EC 7.4.9	2 (2+0)	
10	Plant Biochemistry	EC 7.1.8	2 (1+1)	
10	Research Methodology	EC 7.1.9	2 (1+1)	
11	Statistical Packages for Data Analysis	EC 7.1.10	1 (0+1)	
12	Internship with forest products and technology-based institutions/ industries	EC 7.1.11	2 (0+2)	
<b>v) Forest Resources Management and Utilization – EC 7.5</b>				
1	RS and GIS Application for Forest Resource Management	EC 7.5.1	3 (2+1)	Student can take 20 credits from any one elective
2	Ecosystem Services and Valuation of Forest Resources	EC 7.5.2	3 (2+1)	
3	Entrepreneurship in value chain improvement of Forest Resources	EC 7.5.3	3 (2+1)	
4	Joint Forest Planning and Management	EC 7.5.4	2 (1+1)	
5	Climate Change Mitigation	EC 7.5.5	3 (2+1)	
6	Ecotourism	EC 7.5.6	3 (2+1)	
7	Restoration of Degraded Lands	EC 7.5.7	3 (2+1)	
8	Urban Ecology and Environment	EC 7.5.8	3 (2+1)	
9	Plant Biochemistry	EC 7.1.8	2 (1+1)	
10	Research Methodology	EC 7.1.9	2 (1+1)	
11	Statistical Packages for Data Analysis	EC 7.1.10	1 (0+1)	
12	Internship with Forest Business Unit/RS-GIS Company or Organization	EC 7.1.11	2 (0+2)	
<b>B) MULTI-DISCIPLINARY COURSES</b>				
1	Farming based livelihood systems	MDC 1.1	3 (2+1)	9 (6+3)



2	Entrepreneurship Development and Business Management	MDC 2.1	3 (2+1)	
3	Agriculture Marketing and Trade	MDC 4.1	3 (2+1)	
<b>C) VALUE ADDED COURSES</b>				
1	Environmental studies and Disaster Management	VAC 2.1	3 (2+1)	<b>6 (4+2)</b>
2	Agricultural Informatics and Artificial Intelligence	VAC 4.1	3 (2+1)	
<b>D) ABILITY ENHANCEMENT COURSE</b>				
1	National Cadet Corps (NCC)/National Services Scheme (NSS)	AEC 1.1 AEC 2.2	2 (0+2)	<b>8 (3+5)</b>
2	Communication Skills	AEC 1.2	2 (1+1)	
3	Personality Development	AEC 2.1	2 (1+1)	
4	Physical Education, First Aid and Yoga practices	AEC 3.1	2 (1+1)	

Sr. No.	Course Title	Course Number	Credit hours	Total Credit Hours
<b>E) FORESTRY – SKILL ENHANCEMENT COURSES (SEC)</b>				
<b>1.</b>	<b>Skill Enhancement Courses (SEC-I)</b>	<b>SEC I</b>	<b>4 (0+4)</b>	<b>12 (0+12)</b>
	Commercial Seedling Production	SEC 1.1		
	Forest Machine Learning Technology	SEC 1.2		
	Commercial Forestry	SEC 1.3		
	Landscape Management and Restoration	SEC 1.4		
	Wildlife Photography	SEC 1.5		
	Ecotourism	SEC 1.6		
	Para-taxonomy	SEC 1.7		
	Ornithology	SEC 1.8		
	Herpetology	SEC 1.9		
	Design and development of wood and bamboo products	SEC 1.10		
<b>2</b>	<b>Skill Enhancement Courses (SEC-II)</b>	<b>SEC II</b>	<b>4 (0+4)</b>	
	Clonal Plant Production	SEC 2.1		
	Commercial tree seed production	SEC 2.2		
	Forest Based Industrial Training	SEC 2.3		
	Urban Forestry Designing and Planning	SEC 2.4		
	Wood Working and Carpentry	SEC 2.5		
	Wood seasoning and Preservation Technology	SEC 2.6		
	Zoo Management	SEC 2.7		
	Wild and Commercial Beekeeping	SEC 2.8		
	Mining Afforestation	SEC 2.9		
	Advanced Wood Working	SEC 2.10		
	Lac and Tassar Cultivation	SEC 2.11		



<b>3</b>	<b>Skill Enhancement Courses (SEC-III)</b>	<b>SEC III</b>	<b>2 (0+2)</b>	
	Timber Conversion	SEC 3.1		
	Value addition of NTFPs	SEC 3.2		
	Briquetting Technology	SEC 3.3		
	Forest Fire Management	SEC 3.4		
	Activated Carbon Technology	SEC 3.5		
	Wood carving through CNC Technology	SEC 3.6		
	Bur lapping Technology	SEC 3.7		
	Micro Forest	SEC 3.8		
	Import and Export of Forest Products	SEC 3.9		
	e-Timber Market	SEC 3.10		
	Community Forest	SEC 3.11		
	Human Animal Ecosystem Interface	SEC 3.12		
	AR/VR Module Creation in Forestry	SEC 3.13		
	Forest Resource Assessment	SEC 3.14		
	Multifunctional Agroforestry	SEC 3.15		
	Biofuels Technology through forestry	SEC 3.16		
<b>4</b>	<b>Skill Enhancement Courses (SEC-IV)</b>	<b>SEC IV</b>	<b>2 (0+2)</b>	
	Wildlife Forensic Sciences	SEC 4.1		
	Dendroenergy Generation	SEC 4.2		
	Big Data Management	SEC 4.3		
	Artificial Intelligence in Forestry Operation	SEC 4.4		
	Specialty Seedling Production	SEC 4.5		
	Woodlot Establishment and Management	SEC 4.6		
	Tools for Consulting Forester's	SEC 4.7		
	Application of Drone in Forestry	SEC 4.8		
	Forest Certification	SEC 4.9		
	Arboriculture	SEC 4.10		
	Forest Project Designing and Analysis	SEC 4.11		
	Wood Mechanics	SEC 4.12		
	Mulberry and Non-mulberry based Silk Production	SEC 4.13		
	Internet of Things (IoT) in Forestry	SEC 4.14		
	Marketing and Economics of NTFPs	SEC 4.15		
	Carbon financing projects	SEC 4.16		
<b>F) Internship/ Project / Students READY Program</b>				
1	Internship/ Project / Students READY Program		20 (0+20)	<b>20 (0+20)</b>
	Students READY Program	FSRP 8.1	0+10	
	Internship <b>OR</b> Project	FINTS 8.2 FPR 8.3	0+10	
<b>G) NON-GRADIAL</b>				
1	<i>Deeksharambh</i> (Induction-cum-Foundation Program)	FC 1.1	2	<b>4 (NG)</b>



2	Study Tour	FST 5.1	2 (0+2)	
<b>H) MOOC Courses</b>				
1	Online Courses		10	<b>10</b>

## SUMMARY OF CREDIT DISTRIBUTIONS

Type of courses		Credits
Core courses (major and minor/s)	:	112
Skill Enhancement Courses (SEC)	:	12
Common courses (MDC+VAC+AEC)	:	23
Internship / Student READY	:	20
**MOOCS/ Online Courses	:	10 (Non-gradual)
<b>Grand Total</b>		<b>167+10**</b>