

**DEPARTMENT OF PAPER TECHNOLOGY
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code : **XXX M.Tech. (Pulp and Paper Engineering)**
 Department : **Department of Paper Technology**
 Year : **I**
 Model : **2**

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
Semester-I (Autumn)									
1.	PPC-501	Pulping	PCC	3	3	0	2/2	3	0
2.	PPC-503	Washing and Bleaching	PCC	2	2	0	2/2	2	0
3.	PPC-505	Chemical Recovery Process	PCC	2	2	0	2/2	2	0
4.	PPC-507	Paper Making	PCC	2	2	0	2/2	2	0
5.	PPC-509	Stock Preparation	PCC	2	2	0	0	2	0
6.	PPC-511	Paper Properties	PCC	2	2	0	0	2	0
7.	PPC-513	Stock Preparation and Paper Properties	PCC	3	0	0	6	0	0
8.		Social Science Course	SSC	2	-	-	-	-	-
		Total		18					
Semester-II (Spring)									
1.		Program Elective-I	PEC	3	-	-	-	-	-
2.		Program Elective-II	PEC	3	-	-	-	-	-
3.		Program Elective-III	PEC	3	-	-	-	-	-
4.		Program Elective-IV	PEC	3	-	-	-	-	-
5.		Program Elective-V	PEC	3	-	-	-	-	-
6.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
7.	PPC-700	Seminar	SEM	2	-	-	-	-	-
		Total		20					

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Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
Semester-I (Autumn)									
1.	PPC-691	Internship Social Activity	ISA	5	-	-	-	-	-
2.	PPC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		15					
Semester-II (Spring)									
1.	PPC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		14					

Summary				
Semester	1	2	3	4
Semester-wise Total Credits	18	20	15	14
Total Credits	67			

M.Tech. (Pulp and Paper Engineering)**Program Elective Courses**

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	PPL-501	Process Equipment and Design	PEC	3	3	0	0	3	0
2.	PPL-502	Pulp Mill Calculations	PEC	3	3	0	0	3	0
3.	PPL-503	Paper Mill Calculations	PEC	3	3	0	0	3	0
4.	PPL-504	Chemical Recovery Process Calculations	PEC	3	3	0	0	3	0
5.	PPL-505	Secondary Fiber Processing	PEC	3	3	0	0	3	0
6.	PPL-506	Bio-Process and its Application	PEC	3	3	0	0	3	0
7.	PPL-507	Electro kinetics in Paper Making	PEC	3	3	0	0	3	0
8.	PPL-508	Coated and Specialty Papers	PEC	3	3	0	0	3	0
9.	PPL-509	Risk Analysis and Management in Industry	PEC	3	3	0	0	3	0
10.	PPL-510	System Closure	PEC	3	3	0	0	3	0
11.	PPL-511	Advanced Paper and Packaging Materials Characterization	PEC	3	3	0	0	3	0
12.	PPL-512	Papermaking Chemistry	PEC	3	3	0	0	3	0
13.	PPL-513	Process Integration in Pulp and Paper Industry	PEC	3	3	0	0	3	0
14.	PPL-514	Environmental Management	PEC	3	3	0	0	3	0
15.	PPL-515	Printing Operations	PEC	3	3	0	0	3	0
16.	PPL-516	Packaging Papers and Boards	PEC	3	3	0	0	3	0

M.Tech. (Pulp and Paper Engineering)

Science, Technology, and Advanced Research-tools Basket

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	PPT-501	Pulp, Paper & Packaging	STAR	3	3	0	0	3	0
2.	PPT-502	Environmental Control	STAR	3	3	0	0	3	0

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Program Code : **XXX M.Tech. (Packaging Technology)**
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Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
Semester-I (Autumn)									
1.	PPC-521	Packaging Principles, Processes and Sustainability	PCC	2	2	0	0	2	0
2.	PPC-523	Packaging Materials	PCC	3	3	0	2/2	3	0
3.	PPC-525	Converting Processes for Packaging	PCC	3	3	0	0	3	0
4.	PPC-527	Package Performance	PCC	3	0	0	6	0	0
5.	PPC-529	Package Design	PCC	2	2	0	0	2	0
6.	PPC-531	Food and Pharmaceutical Packaging	PCC	3	3	0	0	3	0
7.		Social Science Course	SSC	2	-	-	-	-	-
		Total		18					
Semester-II (Spring)									
1.		Program Elective-I	PEC	3	-	-	-	-	-
2.		Program Elective-II	PEC	3	-	-	-	-	-
3.		Program Elective-III	PEC	3	-	-	-	-	-
4.		Program Elective-IV	PEC	3	-	-	-	-	-
5.		Program Elective-V	PEC	3	-	-	-	-	-
6.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
7.	PPC-700	Seminar	SEM	2	-	-	-	-	-
		Total		20					

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		Total		14					

Summary				
Semester	1	2	3	4
Semester-wise Total Credits	18	20	15	14
Total Credits	67			

M.Tech. (Packaging Technology)**Program Elective Courses**

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	PPL-517	Smart Packaging	PEC	3	3	0	0	3	0
2.	PPL-518	Robotics and Automated Packaging	PEC	3	3	0	0	3	0
3.	PPL-519	Distribution Packaging Dynamics	PEC	3	3	0	0	3	0
4.	PPL-520	Sustainable Packaging and Life Cycle Assessment	PEC	3	3	0	0	3	0
5.	PPL-521	Hazardous Material Packaging	PEC	3	3	0	0	3	0
6.	PPL-522	Industrial Packaging	PEC	3	3	0	0	3	0
7.	PPL-523	Lamination and Functional Coatings	PEC	3	3	0	0	3	0
8.	PPL-524	Nanotechnology Application in Packaging	PEC	3	3	0	0	3	0
9.	PPL-525	Economics in Packaging	PEC	3	3	0	0	3	0
10.	PPL-526	Advanced Packaging Materials Characterization	PEC	3	3	0	2/2	3	0
11.	PPL-527	Business Law	PEC	3	3	0	0	3	0
12.	PPL-528	Logistics and Supply Chain Management	PEC	3	3	0	0	3	0
13.	PPL-529	Industrial Design	PEC	3	3	0	0	3	0
14.	PPL-530	Printing Technology	PEC	3	3	0	0	3	0
15.	PPL-531	Advanced Numerical Methods and Statistics	PEC	3	3	0	0	3	0

M.Tech. (Packaging Technology)

Science, Technology, and Advanced Research-tools Basket

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	PPT-501	Pulp, Paper & Packaging	STAR	3	3	0	0	3	0
2.	PPT-502	Environmental Control	STAR	3	3	0	0	3	0