

Elective Subjects

A. Program Elective Courses M.Tech. (Pulp and Paper)

S. No.		Teaching Scheme			Contact Hours/Week			Exam Duration		Relative Weight (%)				
					L	T	P	Theory	Practical	CWS	DDC	MTE	ETE	PRE
Subject Code	Course Title	Subject Area	Credits											
Program Elective-I Autumn Semester														
1.	PPN-511	Modeling and Simulation	PEC	4	3	1	0	3	-	25	-	25	50	-
2.	PPN-513	Process Optimization	PEC	4	3	1	0	3	-	25	-	25	50	-
3.	PPN-515	Advance Numerical Methods and Statistics	PEC	4	3	1	0	3	-	25	-	25	50	-
Program Elective-II Autumn Semester														
4.	PPN-521	Process Automation	PEC	3	3	0	2/2	3	-	20	20	20	40	-
5.	PPN-523	Process Instrumentation and Control	PEC	3	3	0	2/2	3	-	20	20	20	40	-
6.	PPN-525	Computer Based Control Systems	PEC	3	3	0	2/2	3	-	20	20	20	40	-
Program Elective-III Spring Semester														
7.	PPN-512	Environmental Management	PEC	3	3	0	0	3	-	25	-	25	50	-
8.	PPN-514	System Closure	PEC	3	3	0	0	3	-	25	-	25	50	-
9.	PPN-516	Chemical Recovery Process Calculations	PEC	3	3	0	0	3	-	25	-	25	50	-
Program Elective-IV Spring Semester														
10.	PPN-522	Paper Making Chemistry	PEC	3	3	0	0	3	-	25	-	25	50	-
11.	PPN-524	Electro kinetics in Paper Making	PEC	3	3	0	0	3	-	25	-	25	50	-
12.	PPN-526	Bio Process and its application	PEC	3	3	0	0	3	-	25	-	25	50	-
13.	PPN-528	Pulp Mill Calculations	PEC	3	3	0	0	3	-	25	-	25	50	-
Program Elective-V Spring Semester														
14.	PPN-532	Printing and Converting Operations	PEC	3	3	0	0	3	-	25	-	25	50	-
15.	PPN-534	Coated and Specialty Papers	PEC	3	3	0	0	3	-	25	-	25	50	-
16.	PPN-536	Packaging Papers and Boards	PEC	3	3	0	0	3	-	25	-	25	50	-
17.	PPN-538	Paper Mill Calculations	PEC	3	3	0	0	3	-	25	-	25	50	-

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

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Program Elective-I														
1.	PPN-551	Application of Modeling and Simulation in Packaging	PEC	4	3	0	2	3	-	15	25	20	40	-
2.	PPN-553	Statistical Analysis and Design of Experiments	PEC	4	3	1	0	3	-	25	-	25	50	-
3.	PPN-515	Advanced Numerical Methods and Statistics	PEC	4	3	1	0	3	-	25	-	25	50	-
Program Elective-II														
4.	PPN-561	Business Law	PEC	3	3	0	0	3	0	25	-	25	50	-
5.	PPN-563	Logistics and Supply Chain Management	PEC	3	3	0	0	2	0	25	-	25	50	-
6.	PPN-565	Industrial Design	PEC	3	2	0	2	-	0	15	25	20	40	-
7.	PPN-567	Economics of Packaging	PEC	3	3	0	0	-	0	25	-	25	50	-
Program Elective-III, IV, V														
8.	PPN-552	Smart Packaging	PEC	3	3	0	0	3	-	25	-	25	50	-
9.	PPN-554	Optoelectronics in Packaging	PEC	3	3	0	0	3	-	25	-	25	50	-
10.	PPN-556	Robotics and Automated Packaging	PEC	3	3	0	0	3	-	25	-	25	50	-
11.	PPN-558	Food and Pharmaceutical Packaging	PEC	3	3	0	0	3	-	25	-	25	50	-
12.	PPN-560	Hazardous Material Packaging	PEC	3	3	0	0	3	-	25	-	25	50	-
13.	PPN-562	Industrial Packaging	PEC	3	3	0	0	3	-	25	-	25	50	-
14.	PPN-564	Sustainable Packaging and Life Cycle Analysis	PEC	3	3	0	0	3	-	25	-	25	50	-
15.	PPN-566	Lamination and Functional Coatings	PEC	3	3	0	0	3	-	25	-	25	50	-
16.	PPN-568	Nanotechnology Applications in Packaging	PEC	3	3	0	0	3	-	25	-	25	50	-
17.	PPN-570	Advanced Analytical Techniques	PEC	3	3	0	2/2	3	-	20	20	20	40	-