

# PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY

## Department of Textile Engineering

Faculty Name: - Dr. R K Baldua

Subject Name: - Textile Fiber II

Year/Semester: - 2<sup>nd</sup> /4<sup>th</sup>

Subject Code: - PCC-TEX-202A

Unit No.	Topic of the Lecture	Hours	Total Hours
<b>Unit I</b>	Introduction of polymerization, monomer, oligomer, comonomers	1	<b>13</b>
	Classification of polymers, homopolymer and copolymers	1	
	Thermo sets , Thermoplastic, Elastomers , Tg, Tm	1	
	Degree of polymerization, molecular weight and its practical significance	1	
	Criteria for fibre forming polymers	3	
	Polymerization techniques with respect to acrylic and polypropylene	4	
	Polymerization mechanisms addition polymerization, condensation polymerization	1	
	Revision & doubt clearance session	1	
<b>Unit II</b>	Production of PET polymer	1	<b>11</b>
	Side reactions & effect of DEG during PET synthesis	2	
	Polymerization of polyester by DMT and TPA route	1	
	Melt Spinning Technique	3	
	High speed Spinning and properties of polyester	2	
	Physical and chemical properties of polyester	1	
	Revision & doubt clearance session	1	
<b>Unit III</b>	Nylon 6 polymer production	2	<b>15</b>
	Effect of different parameters on polymerization of nylon 6	2	
	VK tube polymerization process	1	
	Nylon fiber formation by melt spinning	1	
	Physical and chemical properties of nylon	1	
	Acrylic polymer production	2	
	Fiber formation by wet and dry spinning	2	
	Acrylic fiber formation and coagulation variables	2	
	Comparative study of wet and dry spinning process, dry jet wet spinning	1	
Revision & doubt clearance session	1		
<b>Unit IV</b>	Polyolefin fibers, types physical and chemical properties	2	<b>11</b>
	Drawing and texturing introduction	1	
	Phenomenon of necking	1	
	Drawing condition, continuous filament drawing machine	2	
	Draw texturing process	1	
	Heat setting	1	
	Revision & doubt clearance session	2	
	University paper discussion	1	