

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2018****Subject Code:2152907****Date:04/12/2018****Subject Name:Man Made Fibre Technology****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		<b>MARKS</b>
<b>Q.1</b>	(a) State the unique properties of man made fibres.	<b>03</b>
	(b) Write briefly about the different tow to top conversion systems.	<b>04</b>
	(c) Define texturising and discuss in detail about the feed material characteristics that has profound effect on properties of textured yarn.	<b>07</b>
<b>Q.2</b>	(a) Name the techniques available for producing textured yarn and state which is the most widely used technique.	<b>03</b>
	(b) Mention the three routes through which the polyester and polyamide fibres can be made flame retardant.	<b>04</b>
	(c) Discuss the properties of spin finish and explain any one spin finish application technique with a neat sketch.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(c) What is degree of setting? Explain the mechanism of permanent set.	<b>07</b>
	(a) Draw the schematic diagram of false twist texturing process.	<b>03</b>
	(b) Explain the concept of molecular orientation and crystallinity in fibres.	<b>04</b>
	(c) Explain the two important thermal transitions in a semi-crystalline polymer.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Which are the process variables in false twist texturing?	<b>03</b>
	(b) Explain why the role of molecular size and interaction is of paramount importance.	<b>04</b>
	(c) Discuss in detail about the spin finishes for filament yarns.	<b>07</b>
<b>Q.4</b>	(a) Write briefly about the spindles in the draw texturing machines.	<b>03</b>
	(b) Compare the sequential and simultaneous draw texturing process.	<b>04</b>
	(c) Write in detail about the fibres with non-circular cross-section and hollow fibres.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) State the main quality problems in friction twisting.	<b>03</b>
	(b) Write briefly about the heaters in the draw texturing machines.	<b>04</b>
	(c) Discuss in detail about the glass fibre and also explain its manufacturing process.	<b>07</b>
<b>Q.5</b>	(a) What is chemical texturising?	<b>03</b>
	(b) Write briefly about the gear crimping.	<b>04</b>
	(c) Explain the airjet texturing.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Write briefly about the quality of air textured yarns.	<b>03</b>
	(b) What is stuffer box texturing?	<b>04</b>
	(c) Discuss the recent developments in the field of man made fibres.	<b>07</b>

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