

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2018

Subject Code: 2152603

Date: 11/12/2018

Subject Name: Textile & Metal Reinforcement of Elastomers

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.

		MARKS
Q.1	(a) Write about basic chemistry of Aramid in brief.	03
	(b) Give reaction mechanism for synthesis of regenerated cellulose.	04
	(c) Discuss about various stages during journey of cotton from farm to fabric.	07
Q.2	(a) How Twist directions affect the luster of fabric?	03
	(b) Write about any one method for production of Non-woven fabric.	04
	(c) Draw the schematic diagram showing principle of Weaving and explain it.	07
	OR	
	(c) Mention different types of fabric weaves. Explain about any two weave designs with diagram.	07
Q.3	(a) Give the basic mechanism of Peeling test.	03
	(b) Write about the Direct tension testing of rubber to fabric adhesion.	04
	(c) Name the machine used for Heat setting and Adhesive treatment of Fabric. Explain the process of any one with schematic diagram.	07
	OR	
Q.3	(a) How Peeling can be carried out by Dead-Weight loading?	03
	(b) Write about Peel test involving multi-ply constructions.	04
	(c) Discuss about different types of Adhesives pretreatments for Polyester.	07
Q.4	(a) Why we use fibre filled compound?	03
	(b) "Mixing of short fibre is important parameter" justify the statement.	04
	(c) Discuss the application of santoweb Short fibers in detail.	07
	OR	
Q.4	(a) Draw the mechanism of Bonding.	03
	(b) Give the difference between Coating and Dipping.	04
	(c) Explain the different properties of Fibre filled compound in detail.	07
Q.5	(a) Write the Limitations of Adhesive Bonding.	03
	(b) List out the chemical factors influencing adhesive action. Explain any one in detail.	04
	(c) Explain the "Ebonite Bonding Process" in detail.	07
	OR	
Q.5	(a) Give the Applications of Adhesive.	03
	(b) Write about the different treatments done on various metals and alloys.	04
	(c) Explain the "Isocyanate Bonding" in detail.	07