

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2020**

**Subject Code: 3142608****Date: 19/02/2021****Subject Name: Textile & Metal Reinforcement of Elastomers****Time:02:30 PM TO 04:30 PM****Total Marks:56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) List out the advantages and disadvantages of Kevlar Aramid Fibres. (03)  
(b) Write about the term “Moisture Regain “with formula. (04)  
(c) Discuss in detail about classification of Textile fibers. (07)
- Q.2** (a) Write about chemical properties of Nylon 6. (03)  
(b) Write in brief about general physical properties of Polyester fiber. (04)  
(c) Describe the production of Rayon by cellulose regeneration process. (07)
- Q.3** (a) What is cross-woven fabric? Explain in brief. (03)  
(b) Write about Melt Bonding technique for Non-woven fabric production. (04)  
(c) Discuss about principle of Weaving with schematic diagram. (07)
- Q.4** (a) Write about significance of Twist during filament production. (03)  
(b) Write about Chemically bonded Non-woven fabrics. (04)  
(c) Mention basic fabric weaves. Explain about any one with schematic diagram. (07)
- Q.5** (a) Write about the effect of Ozone on dipped textile cords. (03)  
(b) Give the difference between Fabric coating and Fabric dipping. (04)  
(c) Describe the effect of compounding ingredients on adhesion pretreatment of fibers. (07)
- Q.6** (a) How Humidity affects on pretreated fibers and fabric? (03)  
(b) Write about adhesive pretreatment system for Rayon in brief. (04)  
(c) Describe the single-end Heat-setting treatment for cord with schematic representation. (07)
- Q.7** (a) What is RC failure? How it occurs? (03)  
(b) Write about Santoweb short fibres. (04)  
(c) Describe the standard test procedure for measurement of Peel strength. (07)
- Q.8** (a) Give the causes and remedies for CM failure. (03)  
(b) Give importance of fiber orientation in short fiber Composite production. (04)  
(c) Explain about Peel test involving heavy duty fabrics with schematic diagram. (07)

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