

Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2024

Subject Code:3142608

Date:03-07-2024

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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1 (a) What is Cord and Cable Cord? (03)
(b) Write in brief about End-count and Pick-count. (04)
(c) Represent the basic classification of Textile fibers. (07)

- Q.2 (a) Give schematic representation for melt Spinning process. (03)
(b) Give reaction mechanism for production of Rayon. (04)
(c) Explain in detail about Cotton carding with schematic diagram. (07)

OR

- (c) Write about basic chemical composition, advantages and limitations of Aramid fiber. (07)
Q.3 (a) Write about advantages and disadvantages of Knitting. (03)
(b) Draw the schematic diagram for Plain Weave and explain it. (04)
(c) Explain about Melt Bonding and Needle punching method for Non-woven fabric production. (07)

OR

- Q.3 (a) Decode the designation EbPb 100/50 for fabric. (03)
(b) Write about differences between Cross-woven fabric and Non-woven fabric. (04)
(c) List various Solid woven structures and explain with diagram. (07)
Q.4 (a) What is Peeling test? Explain its significance in brief. (03)
(b) Write about standard test procedure for Peel Strength of two ply test piece. (04)
(c) Describe the Stenter fabric treatment with schematic representation for Single end reinforcement. (07)

OR

- Q.4 (a) Write in brief about T-peel test. (03)
(b) Write about Peel test for multi ply construction. (04)
(c) Describe the Adhesive treatment for Polyester in detail. (07)
Q.5 (a) What is RC failure? Write its causes. (03)
(b) Draw the schematic diagram showing mechanism of Bonding. (04)
(c) List basic class of rubber to metal bonding. Explain about any one in detail. (07)

OR

- Q.5 (a) What is CM failure? Write its remedies. (03)
(b) Write about basic considerations for selection of materials for Bonding. (04)
(c) Describe the bonding process in detail. (07)
