

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018**

**Subject Code:2162904**

**Date:01/05/2018**

**Subject Name:Technical Textile-I**

**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.

**Q.1 (a)** Define technical textile. Which are 12 areas in which technical textile is classified? **03**

**(b)** Give detailed classification of non-woven fabric manufacturing methods. **04**

**(c)** Write in detail on use of synthetic fibres in technical textile. **07**

**Q.2 (a)** Write briefly on use of natural fibres in technical textiles. **03**

**(b)** Compare and contrast use of woven and knitted fabrics for application in technical textiles **04**

**(c)** Classify web. With the help of neat diagram, explain the method of formation of random laid web. **07**

**OR**

**(c)** Write a short note on wet laying. **07**

**Q.3 (a)** Write on the principle of Carding and Stripping at Roller top carding machine. **03**

**(b)** Write in short on various types of glass fiber and their applications. **04**

**(c)** Compare the Thermal bonding and Chemical bonding process. **07**

**OR**

**Q.3 (a)** With reference to application in automobile sector, give various application areas for technical textiles. **03**

**(b)** Compare parallel, cross and random laying in terms of various mechanical properties. **04**

**(c)** Explain the Needle punching process in detail with neat sketches. **07**

**Q.4 (a)** Provide different application areas of technical textile in medical and civil engineering. **03**

**(b)** What is meant by SMS fabric? How it is produced? What is the application of the same? **04**

**(c)** Write a short note on Textile-reinforced composite materials. **07**

**OR**

**Q.4 (a)** Write in short on any one specialty finish applied to technical textile fabric. **03**

**(b)** With sketch explain various points of needle used for needle punching operation. **04**

**(c)** Explain, in detail, the method of formation of stitch bonded fabrics with the help of neat diagrams. Also, discuss some of the parameters to be considered for enhancing the quality of stitch bonded fabrics. **07**

**Q.5 (a)** State the effects which may be achieved by Calendering. **03**

**(b)** Write on the different types of knife profiles possible in Knife coating method. **04**

**(c)** With the help of neat sketches, explain how dry powder coating is done to obtain coated Fabrics. **07**

**OR**

- Q.5** (a) Compare coating and lamination. **03**  
(b) Write in short on antifungal and antimicrobial finishes. **04**  
(c) Write a brief note on “Coating Materials” **07**

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