

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI(NEW) – EXAMINATION – SUMMER 2019****Subject Code:2162904****Date:14/05/2019****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.

|            |  | <b>MARKS</b> |
|------------|--|--------------|
| <b>Q.1</b> | (a) Define technical textiles.   | <b>03</b>    |
|            | (b) Discuss in brief about the various fibres used for manufacturing technical textiles.   | <b>04</b>    |
|            | (c) Write a short note on textile-reinforced composite materials.  | <b>07</b>    |
| <b>Q.2</b> | (a) What are nonwovens?  | <b>03</b>    |
|            | (b) Compare coating and lamination.  | <b>04</b>    |
|            | (c) Write a short note on filter fabrics.  | <b>07</b>    |
|            | <b>OR</b>  |              |
|            | (c) Compare parallel laying and cross laying.  | <b>07</b>    |
| <b>Q.3</b> | (a) Write briefly about the wet laying process.  | <b>03</b>    |
|            | (b) What are the problems experienced in cross laying and state the measures taken to solve these problems.                                | <b>04</b>    |
|            | (c) Explain the working of carding machine used for manufacturing of nonwoven fabrics.   | <b>07</b>    |
|            | <b>OR</b>  |              |
| <b>Q.3</b> | (a) Define the following terms : Intensity of Carding and Delay factor.  | <b>03</b>    |
|            | (b) Air laid fabrics are randomly laid fabrics. State and explain if the statement is true or false.                                       | <b>04</b>    |
|            | (c) Explain the concept of mechanical bonding.   | <b>07</b>    |
| <b>Q.4</b> | (a) What is geotextile?  | <b>03</b>    |
|            | (b) Write briefly about the technical fabric structure woven fabrics.  | <b>04</b>    |
|            | (c) Compare thermal bonding and chemical bonding.  | <b>07</b>    |
|            | <b>OR</b>  |              |
| <b>Q.4</b> | (a) State some of the important properties of carbon fibre and explain the method of production of these fibres.                           | <b>03</b>    |
|            | (b) Write briefly about the technical fabric structure knitted fabrics.  | <b>04</b>    |
|            | (c) Compare spunbond with melt blown fabric. With the help of neat diagram, explain the method of production of spunbond fabric in detail. | <b>07</b>    |
| <b>Q.5</b> | (a) State the names of various methods of coating.   | <b>03</b>    |
|            | (b) Discuss briefly about the glass fibre.   | <b>04</b>    |
|            | (c) Write a short note on wet processing of technical textiles.  | <b>07</b>    |
|            | <b>OR</b>  |              |
| <b>Q.5</b> | (a) What is medical textile?   | <b>03</b>    |
|            | (b) Discuss briefly about the coating materials used for technical textiles.   | <b>04</b>    |
|            | (c) Write a short note on finishing of technical textiles.   | <b>07</b>    |

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