

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

**Subject Code:3162904**

**Date:22-05-2026**

**Subject Name:Technical Textiles**

**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.

|                                                                                       | MARKS     |
|---------------------------------------------------------------------------------------|-----------|
| <b>Q.1</b> (a) Give the definition of nonwovens.                                      | <b>03</b> |
| (b) Name the various technical fibres used for manufacturing technical textiles.      | <b>04</b> |
| (c) Discuss the scope for technical textiles.                                         | <b>07</b> |
| <b>Q.2</b> (a) Classify medical textiles.                                             | <b>03</b> |
| (b) Write briefly about lamination.                                                   | <b>04</b> |
| (c) Discuss the applications of composites in technical textiles.                     | <b>07</b> |
| <b>OR</b>                                                                             |           |
| (c) Write a note on leno weaving for technical applications.                          | <b>07</b> |
| <b>Q.3</b> (a) What is cross laying?                                                  | <b>03</b> |
| (b) How is mechanical bonding carried out? Write briefly.                             | <b>04</b> |
| (c) Write a note on technical knitted fabric.                                         | <b>07</b> |
| <b>OR</b>                                                                             |           |
| <b>Q.3</b> (a) Write briefly about SMS fabric.                                        | <b>03</b> |
| (b) Compare thermal and chemical bonding.                                             | <b>04</b> |
| (c) Discuss in detail about the yarns used in manufacturing technical textiles.       | <b>07</b> |
| <b>Q.4</b> (a) How is flame retardant finishing carried out?                          | <b>03</b> |
| (b) How are nanofibers produced?                                                      | <b>04</b> |
| (c) Discuss the essential properties and applications of medical textiles.            | <b>07</b> |
| <b>OR</b>                                                                             |           |
| <b>Q.4</b> (a) What is antimicrobial finish?                                          | <b>03</b> |
| (b) State the raw material requirements in protective textiles.                       | <b>04</b> |
| (c) Discuss in detail about raw materials and various applications of sport textiles. | <b>07</b> |
| <b>Q.5</b> (a) State the applications in agrotech.                                    | <b>03</b> |
| (b) How is technical textile material used for environmental protection?              | <b>04</b> |
| (c) Discuss the functions of geotech.                                                 | <b>07</b> |
| <b>OR</b>                                                                             |           |
| <b>Q.5</b> (a) State the types of coating.                                            | <b>03</b> |
| (b) How is waterproof finishing carried out?                                          | <b>04</b> |
| (c) Write in detail about the functions and applications of mobiltech.                | <b>07</b> |

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