

Seat No./Enrollment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 6 – EXAMINATION – SUMMER 2026

Subject Code: 3162915

Date: 26/05/2026

Subject Name: Engineering Applications of 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.**

- Q.1** (a) What is composite? Give classification of composites. **03**
(b) What is auxetic fibers? State its applications. **04**
(c) Explain important function of geotextiles. **07**
- Q.2** (a) Define and state application of photovoltaic fibers. **03**
(b) Compare natural ropes with synthetic ropes. **04**
(c) Explain application of carbon fibre in technical textiles. **07**
- OR
- Q.2** (c) Write short note on “Kevlar fibre”. **07**
- Q.3** (a) Define the terms: i. Geosynthetics ii. Geotextiles **03**
(b) Define filtration. State the various mechanism of filtration. **04**
(c) Explain different types of geosynthetics and their applications in detail. **07**
- OR
- Q.3** (a) Define the terms: rope, webbing and nets. **03**
(b) Explain formation of rope structure with suitable diagram. **04**
(c) Write short note on synthetic fibre ropes. **07**
- Q.4** (a) Enlist different properties require for fibres use in transportation. **03**
(b) Discuss in brief about use of textile in passenger car. **04**
(c) Write short note on application of technical textiles in air craft and marine. **07**
- OR
- Q.4** (a) Discuss some application of textiles in packaging industry. **03**
(b) State different application of filtration fabric. Explain any two in brief. **04**
(c) Explain different type of yarn and fabric used in filtration. **07**
- Q.5** (a) Explain briefly, the application of piezoelectric and shape memory fibers. **03**
(b) List out various applications of woven fabrics made from glass fibres. **04**
(c) Discuss any two applications in the area of agrotech **07**
- OR
- Q.5** (a) State various advantages and disadvantages of textile composite. **03**

(b) Discuss the application of nano fibres in technical textiles.

04

(c) Write short note on tyre cord.

07
