

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI EXAMINATION – SUMMER 2025

Subject Code: 3162904

Date: 22-05-2025

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.

- Q.1** (a) Define technical textiles. **03**
(b) Briefly write about twelve sectors of technical textiles. **04**
(c) Write a short note on Protective Textiles. **07**
- Q.2** (a) Explain briefly about use of synthetic fibres in technical textile. **03**
(b) Give classification of medical textiles with examples. **04**
(c) State and explain different types of implantable materials in detail. **07**
- OR**
- (c) What is the difference between lamination and coating? With the help of neat figures, describe hot & cold lamination process on textile substrate. **07**
- Q.3** (a) State important characteristic and application of UHMWPE fibre. **03**
(b) Discuss the application of glass fibre in technical textiles. **04**
(c) Describe the production of Carbon fibres. Also discuss the properties and applications of the same. **07**
- OR**
- Q.3** (a) State some of the areas of applications of medical textiles. **03**
(b) Discuss in detail Extracorporeal devices. **04**
(c) State the requirement in properties of the fibres used in medicine and surgery and write on the recent developments in fibres used in medical textiles. **07**
- Q.4** (a) Discuss in brief about Oekotech. **03**
(b) Write a short note on Ballistic protective material. **04**
(c) Classify web. With the help of neat diagram, explain the method of formation of random laid web. **07**
- OR**
- Q.4** (a) Explain about any one specialty finish applied to technical textile fabric. **03**
(b) Explain about characteristics and raw materials for flame retardant fabrics. **04**
(c) Write a short note on Textile-reinforced composite materials. **07**
- Q.5** (a) State the functions and applications of Packtech. **03**
(b) Discuss in brief about Car insulation materials. **04**
(c) Explain in details the application of nanotechnology in textiles. **07**
- OR**
- Q.5** (a) State some of the important applications of coated fabrics. **03**
(b) Write briefly on Indutech. **04**
(c) What are Geo textiles? State the major functions of Geotextiles and list out various applications of geotextiles. **07**
