



Department of Textile Engineering
Jashore University of Science and Technology
4th Year 1st Semester B.Sc. (Engg.) Final Examination-2021
Course Title: Technical Textiles
Course Code: TE 4111

Time: 3 Hours

Total Marks: 72

N.B. - Answer any six from the following questions. Maintain sequence in answering each question. Figures shown in the right margin indicate full marks.

1. (a) Define Technical Textiles. Classify technical textiles with at least two examples. [5]
(b) What are the advantages and disadvantages of nonwoven in making technical textiles? [3]
(c) Describe melt-blown nonwoven briefly. [2]
(d) List down some methods of manufacturing technical textiles. [2]

2. (a) How does Jute geotextiles control hill slope erosion [2]
(b) What are the economical and environmental advantages of using Jute geotextile? [4]
(c) Show the comparative properties of Synthetic and Jute geo textiles [4]
(d) Write brief notes on 'Geo-synthetic Clay Liner' [2]

3. (a) Describe the major principles involved in filtration mechanism. [4]
(b) What are the requirements of textile filters? [2]
(c) What is filter aid? Give some examples. Write down the characteristics of filter aid. [3]
(d) Which synthetic fibers are more preferable in making filter and why? [3]

4. (a) Classify smart textiles and describe them in your words. What are the characteristics of fiber required in smart textiles? [4]
(b) Illustrates and describe the working principles of smart textiles and describe. [3]
(c) Mention the scope of microencapsulation and thermo-chromic color in smart textiles. [5]

5. (a) What are the functional criteria for protective textile? [3]
(b) Mention optimum properties required of fabric intended for protection against heat and flame. [5]
(c) What are the principle parameters of textiles as protection from ultraviolet radiation? [4]

6. (a) What are the essential features of sports textiles? Point out the factors for designing sportswear [3]
- (b) What are the basic functions of textiles in automobile? Illustrate and describe the basic construction of a tire. [4]
- (c) Describe the mechanism of airbag during an accident. Which fibers are suitable for airbag? [3]
- (d) Write notes on seatbelt. What are the requirements of seatbelts? [2]
7. (a) Classify medical textiles with examples. What are the desired properties of medical textiles? [4]
- (b) Write short notes on artificial tendon. How an artificial lung works? [4]
- (c) Describe different categories of fibers used in healthcare and medicine. What are the limitations of cotton in medical textiles? [4]
8. (a) What are the types of laminated fabrics? [3]
- (b) Show the difference between coating and laminating. [4]
- (c) What are the factors considered for evaluating the performance of laminated fabrics? [2]
- (d) Describe immersion coating with proper sketch. [3]
