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## Eighth Semester B.Tech. Degree Examination, June/July 2023

### Technical Textiles

Time: 3 hrs.

Max. Marks: 100

**Note:** Answer any FIVE full questions, choosing ONE full question from each module.

#### Module-1

- 1 a. Discuss the fibres used and their properties in technical textiles. Give classification of Technical Textile. (10 Marks)
- b. Explain the applications of Textiles in Agriculture, Horticulture and Animal husbandry. (10 Marks)

OR

- 2 a. With a neat diagram, explain the working of Air bags. (10 Marks)
- b. Explain the various applications of textiles in Aerospace Industry. (10 Marks)

#### Module-2

- 3 a. Give the classification of Medical Textiles. Discuss the types of fibres used and their properties in Medical Textiles. (10 Marks)
- b. Explain the extra corporal devices of Medical Textiles. (10 Marks)

OR

- 4 a. What are Geotextiles? Explain their application in construction and civil engineering. (10 Marks)
- b. Discuss the various functions of geotextiles with a neat diagram. (10 Marks)

#### Module-3

- 5 a. Mention the fibres used in filtration and explain the functional properties. (10 Marks)
- b. Briefly explain the dust collection theory and principle in dry filtration. (10 Marks)

OR

- 6 a. Explain the usage of textiles in coated fabrics. (10 Marks)
- b. Discuss various methods of coating, with a neat diagram. (10 Marks)

#### Module-4

- 7 a. Define Smart Textile. Explain the component and classification of Smart textiles. (10 Marks)
- b. State the principle by which shape memory and phase change materials work and briefly explain how PCMs are produced. (10 Marks)

OR

- 8 a. Explain how nano fibres are produced and state the difficulties in producing nano fibres. (10 Marks)
- b. State the special features of nano fibres. Explain various applications of nano fibres in technical textiles. (10 Marks)

**Module-5**

- 9 a. State the importance of heat and flame protection in defense textiles. Briefly explain any four inherent flame retardant fibres and any four methods of making conventional fibres as flame retardant fibres. (10 Marks)
- b. State the importance of thermal insulation materials and water proof breathable materials in defense textiles. (10 Marks)

**OR**

- 10 a. Discuss various criteria for selection of fabrics for defense. What are Ballistic protective fabrics? (10 Marks)
- b. Explain in brief Application of textiles in power transmission and sports. (10 Marks)

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