

22583

11920

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) Answer each Section on same / separate answer sheet.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.

Marks

1. Attempt any FIVE :

10

- (a) Define non-wovens.
- (b) List down stages of manufacturing non-wovens.
- (c) Define 'Technical Textiles'.
- (d) Define 'Geo-textiles'.
- (e) Give examples of implantable materials.
- (f) State reasons for using ground cover.
- (g) State the requirements of fibres/filaments properties for filtration of hazardous chemicals.
- (h) List down various implantable materials used in medical textiles.

- 2. Attempt any THREE :** **12**
- (a) Give detailed classification of non-wovens.
 - (b) Describe the process of web formation in detail for manufacturing non-woven with the help of a neat diagram.
 - (c) Classify technical textiles into various categories.
 - (d) Describe following geo-textile functions with help of neat diagram :
 - (i) Separation
 - (ii) Drainage
- 3. Attempt any THREE :** **12**
- (a) Give historical background of non-wovens.
 - (b) List down various type of bonding processes used for manufacturing chemical bonded non-woven. Explain any one with the help of a neat diagram.
 - (c) Describe following geo-textile functions with the help of a neat diagram.
 - (i) Filtration
 - (ii) Reinforcement and stabilisation
 - (d) Give classification of medical textile.
- 4. Attempt any THREE :** **12**
- (a) List down various types of bonding techniques used for manufacturing thermal bonded non-woven. Explain any one of them with the help of a neat diagram.
 - (b) Describe various chemical characteristics and physical properties of fibres and filaments used for production of technical textiles.
 - (c) Describe in detail manufacturing of Geo-grid, state its areas of application.
 - (d) Describe in detail various health care and hygiene products used. State the properties required of the fibres and yarns used to make them.
 - (e) List down various applications of agro-textiles give details of construction particulars, yarn used, properties of yarn to produce any one of them.

5. Attempt any TWO :**12**

- (a) State various Extracorporeal devices used in medical textiles. Describe various characteristics and properties, fibres, yarns must possess to be suitable for this application.
- (b) Describe in detail manufacturing and applications of Geo nets and Geo-composites.
- (c) Describe construction particulars, types of yarn used, manufacturing methods used for production of :
 - (i) Sun screen
 - (ii) Ground cover
 - (iii) Root ball net

6. Attempt any TWO :**12**

- (a) Describe in detail types of yarns used construction particulars, manufacturing techniques used for production of agro-textile which are used in :
 - (i) Horticulture
 - (ii) Floriculture
 - (iii) Animal husbandry
 - (iv) Aquaculture nets
 - (b) Describe in detail the method of manufacturing needle punched non-woven with the help of a neat diagram.
 - (c) Describe applications of different types of non-wovens fabrics. State properties required for each type of fabric.
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