

# 12701

**11122**

**3 Hours / 100 Marks**

Seat No.

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*Instructions* – (1) All Questions are *compulsory*.

(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.

**Marks**

**1. a) Attempt any THREE of the following:**

**12**

- (i) State the meaning of term 'Technical Textile'.
- (ii) How is technical textile different from industrial textile?
- (iii) Draw process flow diagram to manufacture cords.
- (iv) Explain chemistry of coated textile.

**b) Attempt any ONE of the following:**

**6**

- (i) How are Laminates manufactured?
- (ii) Define filtering capacity of fabric. Describe a method to the filtering capacity.

P.T.O.

- 2. Attempt any TWO of the following:** **16**
- a) Give any eight applications of technical textile in medical field.
  - b) Explain the fabric requirements at high altitude to the manufactures of garments to the Military.
  - c) Explain the term 'Material - Non-implantable'. Give four products and raw materials used for it.
- 3. Attempt any FOUR of the following:** **16**
- a) State the properties of four fibres used for heat and flame protection.
  - b) Give one method of application of coating to the fabric from both sides.
  - c) Explain combustion mechanism of any two fibres.
  - d) Compare flammability and thermal behaviour of any two fibres.
  - e) How are natural fibres made flame retardant?
- 4. a) Attempt any THREE of the following:** **12**
- (i) Mention specific reasons to use implantable material with names.
  - (ii) Name various marine applications of textiles.
  - (iii) Describe the mechanism of composite reinforcement.
  - (iv) State the advantages of textile structure composites.

**b) Attempt any ONE of the following:**

**6**

- (i) Describe filtration spectrum.
- (ii) Compare mechanical behaviour of woven and knitted reinforced composites.

**5. Attempt any TWO of the following:**

**16**

- a) Explain battlefield hazards as encountered for defence textile.
- b) Describe production of woven narrow fabrics.
- c) Explain ballistic protection requirements for technical textile.

**6. Attempt any FOUR of the following:**

**16**

- a) Mention importance of textiles in automobile industry.
  - b) Explain use of technical textile in zip fastener tape.
  - c) Explain use of textiles for chemical warfare protection.
  - d) Mention four fibres and their properties suitable in transport textile.
  - e) Describe the history of Technical Textile.
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