

# 17569

**11920**

**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.  
(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

**Marks**

- 1. Attempt any FIVE of the following:** **20**
- Give the detailed classification of shuttleless looms.
  - Draw the schematic diagram of impulsive beat up mechanism on shuttleless weaving.
  - State the merits and demerits of negative transfer and positive pick transfer technique.
  - State the principle of air jet picking system.
  - State the disadvantage of water jet weaving machines.
  - Discuss the need of weft accumulator in shuttleless weaving machines.
  - State the concept of non woven fabric and state its merits over the woven fabric.
  - State the properties of non woven fabric.

P.T.O.

- 2. Attempt any TWO of the following:** **16**
- a) Describe with sketch projectile picking mechanism.
  - b) (i) Give the classification of rapier looms.  
(ii) Draw the schematic figures of various rapier drives used on rapier weaving machine.
  - c) Describe with sketch various developments of reed to guide the air in air jet weaving machine.
- 3. Attempt any TWO of the following:** **16**
- a) (i) State the functions of tandem nozzles on air jet weaving machine.  
(ii) List the air quality requirement for air jet weaving m/c.
  - b) Describe with sketch various types of selvages used with its merits and demerits.
  - c) List down various methods of web preparations and explain the aero-dynamic method of web preparation.
- 4. Attempt any TWO of the following:** **16**
- a) Discuss the various web laying methods and describe any one with relevant sketch.
  - b) Describe the mechanical needle bonding method of non woven fabric preparation with sketch.
  - c) Describe the use of geo textiles in Railway tracks with sketch.

- 5. Attempt any TWO of the following:** **16**
- a) Describe the adhesive bonding technique to produce the fabric with sketch.
  - b) Describe the applications of geo textile w.r.t. sea bed erosion control.
  - c) Give the detailed classification of Geo-textiles.
- 6. Attempt any FOUR of the following:** **16**
- a) Explain the need of shuttleless technology with relevant examples.
  - b) List various types of projectiles used with their features.
  - c) Distinguish between Dewas and Gabler rapier systems.
  - d) Distinguish between water jet and air jet picking principle.
  - e) State the yarn requirements for shuttleless looms.
  - f) Explain briefly any four applications in details for non woven fabrics.
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