



17569

14115

3 Hours/100 Marks

Seat No.

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- Instructions :** (1) Answer **each** next **main** question on a **new** page.  
(2) Illustrate your answers with neat sketches **wherever necessary**.  
(3) **Figures** to the **right** indicate full marks.  
(4) Assume **suitable data**, if necessary.  
(5) **Use** of non-programmable Electronic Pocket Calculator is permissible.  
(6) Mobile Phone, Pager and **any other** Electronic Communication devices are **not** permissible in Examination Hall.

MARKS

1. Attempt **any five** :

20

- State limitations and disadvantages of shuttle loom.
- What is impulsive beat-up ? Give timings and degrees.
- Enumerate rigid, flexible and telescopic rapiers. Draw line diagrams.
- Mention the utility and meaning of 'relay nozzles' and tandom nozzles'.
- Sketch various needles configurations used in mechanical bonding method.
- State the meaning and use of 'Lead angle'.
  - What are the objects of weft accumulator ?
- Show the orientation of fibres in the web.
  - State four reasons for increasing application of non-wovens.

2. Attempt **any two** :

16

- Enumerate salient features of projectile weaving machine.
- Describe the picking cycle on projectile weaving machine. Use line sketches.
- Give the classification shuttleless looms.
  - Explain different types of selvages used on shuttleless looms.

P.T.O.

**MARKS**

3. Attempt **any two** : **16**
- a) Describe advantages of tip to tip transfer of weft in rapier weaving machines.
  - b) i) Compare loop transfer and tip transfer of weft in rapier.  
ii) Mention four applications of non-woven fabric in medical textile.
  - c) How air stream is controlled and utilised for picking a weft in Air Jet Weaving ?
4. Attempt **any two** : **16**
- a) What are the requirements of air quality, compressor and distribution system at Air Jet Weaving Machine.
  - b) Mention yarn parameters and its quality requirements for shuttleless weaving machine.
  - c) Describe salient features and water quality requirements for Water Jet Loom.
5. Attempt **any two** : **16**
- a) Sketch and describe mechanical method of manufacturing the non-woven.
  - b) Describe aerodynamic method of web preparation for non-wovens.
  - c) What are the laminated composite textile ? Give their classification.
6. Attempt **any two** : **16**
- a) Describe the functions of geo-textiles.
  - b) Explain the uses of geo-textile under the Railway track. Give advantages also.
  - c) How geotextile helps in controlling sea-bed erosion ?
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