



17569

21415

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. Attempt **any five** : **20**
- a) Classify shuttleless weaving machines with respect to weft insertion rates.
  - b) Mention types of projectile, used on projectile looms with its dimensions and weight.
  - c) What is impulsive beatup and 'eccentricity of a sley' ?
  - d) Give different widths of projectile weaving machines and number of projectiles required for each width.
  - e) Enlist four parts and their functions from torsion rod picking system.
  - f) Mention any eight exact applications of non-woven textile.
  - g) State the preferential requirements of functional properties from Geo-textile used in non-paved road.
  - h) State function of weft accumulator. List down types of accumulators. Explain working of any one of them with help of diagram.
2. Attempt **any two** : **16**
- a) Mention limitations of shuttle loom and disadvantages of shuttle and its picking system.
  - b) Compare rigid rapier and flexible rapier looms.
  - c) Describe the cycle of weft insertion in flexible rapier loom.

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3. Attempt **any two** : 16
- a) Write the functions and working of relay nozzles, tandem nozzles and suction tube.
  - b) Describe salient features of air jet loom ? (any eight)
  - c) Sketch and label the picking mechanism on water jet loom.
4. Attempt **any two** : 16
- a) Draw the interlacement diagram of tucked-in and leno selvages. Mention special requirements of these selvages.
  - b) Which yarn properties are important for shuttleless weaving ? Why ? Enlist care to be taken during sizing of warp to be used for shuttleless weaving.
  - c) State historical developments and classification of non-wovens.
5. Attempt **any two** : 16
- a) Compare different configuration of cards used for non-woven manufacturing.
  - b) Enumerate factors affecting properties of needle punch of or non-wovens.
  - c) Describe manufacturing of laminated composites and their use.
6. Attempt **any two** : 16
- a) State the meaning of geo-grids, geo-mats, webs and bio-degradable geo-textile and their utility.
  - b) Describe the use of geotextile in railway tracks.
  - c) How sea-bed erosion can be controlled with the help of geo-textile ?
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