

# 22678

**22223**

**3 Hours / 70 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. Attempt any FIVE of the following: **10****
- a) State the advantage of shuttle loom.
  - b) List the general features of shuttles loom.
  - c) State the silent features of projectile loom.
  - d) Calculate the weft insertion rate in m/min, if projectile loom speed is 300 picks/min and Reed within meter is 2 meter.
  - e) Draw the schematic figure of doupleno mechanism used in rapier weaving machine.
  - f) State the principle of multi phase weaving machine.
  - g) State the main function of weft accumulators.

P.T.O.

- 2. Attempt any THREE of the following: 12**
- a) Describe the need of shuttleless weaving w.r.t with respect to the limitation of shuttle loom.
  - b) Describe the working principle of torsion bar picking mechanics with the help of a neat sketch.
  - c) Describe the various types of rapier insertion methods with the help of sketch.
  - d) State the role of relay nuzzles in air jet weaving machine.
- 3. Attempt any THREE of the following: 12**
- a) Classify the shuttleless weaving in different categories.
  - b) Draw the schematic diagram of projectile impulsive beat up mechanism.
  - c) Give the detail classification of rapier loom w.r.t. No. of rapier, weft insertion principle, types of rapier.
  - d) State the principles of air jet weaving machine.
- 4. Attempt any THREE of the following: 12**
- a) Describe with sketch the picking cycle of rapier weaving machine.
  - b) Describe the various developments in air jet reed with sketch.
  - c) Distinguish between Needle loom, Shuttleless loom and Shuttle loom.
  - d) State the various application of true selvages in daily lifestyle textile product.
  - e) Describe the working principle of circular weaving machine with the help of a schematic diagram.

- 5. Attempt any TWO of the following:** **12**
- a) Describe with sketch the picking cycle of projectile loom.
  - b) Describe the working principle of Dewas rapier weaving machine.
  - c) i) Draw the schematic figure of water jet picking mechanism.  
ii) Draw the schematic diagram of any projectile used in projectile loom.
- 6. Attempt any TWO of the following:** **12**
- a) Calculate the WIR of multiphase loom if loom speed is 200 picks/min and loom width is 2.5 mtr. and No. of phases of one cycle is 4.
  - b) Distinguish between the working Principle of leno selvedge mechanism and tucked-in selvedge mechanism.
  - c) Describe in brief the yarn requirements for shuttleless weaving.
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