

22462

23124

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (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.

**Marks**

**1. Attempt any FIVE of the following :**

**10**

- (a) State the objectives of pirn winding machine.
- (b) Define draft & peg plan.
- (c) State the object of shedding mechanism.
- (d) List different types of picking mechanism on loom.
- (e) Calculate number of teeth required on change wheel of 7-wheel intermittent take-up mechanism to produce 40 PPJ in fabric (consider dividend = 1).
- (f) State the functions of following motions in the loom :
  - (i) Warp stop motion
  - (ii) Warp protection motion
- (g) Name four different warp wise defects in woven fabric.



**2. Attempt any THREE of the following : 12**

- (a) Describe with neat sketch, passage of yarn through pirn winding machine.
- (b) Explain three different types of heald wires with two advantages & two disadvantages of each.
- (c) Explain open shed & bottom closed shed with two advantages and two disadvantages of each.
- (d) Describe with neat sketch working of oscillating back rest.

**3. Attempt any THREE of the following : 12**

- (a) Calculate winding speed and production in meters / 8 hrs / spindle of pirn winding machine using following data :
  - Traverse speed = 75 mts/min.
  - Spindle surface speed = 2000 mts/min.
  - Efficiency = 80%
- (b)
  - (i) Define Reed count in stock port system.
  - (ii) Calculate Reed count in stock port system if EPI = 40 and No. of threads drawn through single dent = 2.
- (c) Describe with neat sketch construction and working of crank beat-up mechanism.
- (d) Explain with neat sketch construction and working of negative let off mechanism.

**4. Attempt any THREE of the following : 12**

- (a) Describe with neat sketch construction and working of negative tappet shedding mechanism.

- (b) (i) Draw timing cycle of the loom indicating shedding start & end point, dwell period, picking start and end point, & beat-up.
- (ii) State the importance of sley eccentricity.
- (c) Calculate loom production in meters/8 hr from following data :
- PPI = 40
  - Loom rpm = 200
  - Efficiency = 80%
- (d) Analyse the causes & remedies for following defects :
- Missing end
  - Missing pick
- (e) Analyse the causes & remedies for following fabric defect :
- Starting mark
  - Temple mark

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

**12**

- (a) Calculate the warp weight in grams from following parameters :
- EPI = 40
  - Warp crimp percentage = 4%
  - Warp count = 40 Tex
  - Fabric width = 40"
  - Fabric length = 40"
- (b) Describe with neat sketch construction and working of overpicking mechanism.
- (c) Describe with neat sketch construction and working of side lever underpicking mechanism.

**6. Attempt any TWO of the following :****12**

- (a) Describe with neat sketch construction and working of seven wheel intermittent take up mechanism.
  - (b) Explain the construction and working of side weft fork motion with labelled diagram.
  - (c) Analyse the causes and remedies of following defects :
    - Reedy fabric
    - lashing – in
    - broken-end
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