

22462

24225

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

Marks

1. Attempt any FIVE of the following :

10

- (a) State the function of yarn tensioner on pirn winding machine.
- (b) State the objectives of pirn winding machine.
- (c) List four factor's considered in the build of pirn.
- (d) Name all primary motions in weaving machine.
- (e) Draw different types of Drop wire used on warp stop motion.
- (f) Name two warp way defect.
- (g) Illustrate the fabric defect "Temple Mark".

2. Attempt any THREE of the following :

12

- (a) Calculate reed count in Stockport & Metric system if $EPI = 40$, No. of threads drawn per dent = 2.



- (b) Explain the method for constructing Draft & Lifting plan for plain weave.
- (c) Explain the passage of warp through weaving machine with neat sketch.
- (d) State objectives of all primary & secondary motions of weaving machine.

3. Attempt any THREE of the following :

12

- (a)
 - (i) List various types of heald wires used on weaving machine.
 - (ii) State two-advantages & two-disadvantages of flat-steel healds.
- (b) Explain step-by-step procedure to Design the tappet for 2 up 2 down (RHS) twill weave.
- (c) Calculate the weaving machine production in meters per shift of 8 hours from following parameters :
 - $PPI = 40$
 - Machine speed = 140 rpm
 - Machine efficiency = 74%
- (d) Differentiate 5-wheel & 7-wheel take up motion based on following points :
 - Number of wheels.
 - Value of dividend.
 - Name the wheel that need to change when PPI is required to change.
 - Possibility of fractional PPI.

4. Attempt any THREE of the following :

12

- (a) Explain the passage of yarn through pirn winding machine with neat sketch.
- (b) Draw the timing diagrams of shedding, picking & beat-up.

- (c) Describe the construction & working of Negative Let-off motion.
- (d) Differentiate side & central weft fork mechanism based on following points :
- Position of weft fork on weaving machine.
 - Number of picks after which mechanism brought into action.
 - Suitability for drop-box mechanism.
 - Risk of broken-pick.
- (e) Suggest the cause & remedies for below defects :
- (i) Missing-end
- (ii) Broken-pick

5. Attempt any TWO of the following :

12

- (a) Calculate grams per square meter (GSM) of woven fabric from following parameters :
- EPI & PPI = 40
 - Warp & Weft count = 40 tex
 - Warp & Weft crimp = 4%
- (b) Describe the construction & working of Negative tappet shedding mechanism.
- (c) Describe the construction & working of mechanical warp-stop motion.

6. Attempt any TWO of the following :

12

- (a) Describe the construction & working of cone over-pick mechanism.

(b) Draw 7-wheel take-up mechanism & Determine Divident, PPI :

- Pushing pawl – 01 Tooth
- Ratchet wheel – 50 Teeth
- Change wheel – 40 Teeth
- Stud wheel – 120 Teeth
- Stud pinion – 15 Teeth
- Emery Roller wheel – 75 Teeth
- Circumference of emery roller – 15"

(c) Suggest the cause & remedies for defects :

- (i) Double end
 - (ii) Lashing-in
 - (iii) Temple marks
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