# 313346

**12425**

**03 Hours / 70 Marks** Seat No. | | | | | | | | |

*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.

(7) 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 objective of the pirn winding machine.

b) Find reed count in stockport system if EPI = 40 and no. of threads/dent = 2.

c) Classify the take-up and let off mechanism.

d) State the function of warp and weft stop motion on loom.

e) State the objective of temple.

f) State single major cause of double end woven fabric defect.

g) Classify the defects in woven fabric.

**Marks**

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

a) Describe with the neat sketch the passage of yarn through pirn winding machine.

b) Explain the functions of following pirn winding components.

i) Yarn Tensioner

ii) Stop motion

iii) Traversing guide

iv) Bunch

c) Explain the objective of picking mechanism and enlist the ways to adjust picking force in side lever underpick mechanism.

d) Describe with the neat sketch the construction and working of negative let-off mechanism.

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

a) Suggest two causes and remedies of following defects occured in pirn.

i) Soft / hard bobbin

ii) Slough - off

b) With the neat sketch, explain construction and working of over-picking mechanism.

c) Calculate the production of weaving machine from following data,

i) PPI = 40

ii) Efficiency = 75%

iii) Crank shaft rpm = 200

d) Draw neat diagram mechanical warp stop motion.

**Marks**

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

a) Draw and explain loom timing diagram of shedding, picking and beat-up mechanism.

b) Differentiate between 5-wheel and 7-wheel takeup mechanism based on following points

i) No. of wheels

ii) Value of divident

iii) No. of wheels changes if PPI changes

iv) Possibility of fractional PPI

c) Compare loose reed and fast reed warp protection mechanism based on following points.

i) Principle involved

ii) loom stop after no. of picks

iii) firmness of reed

iv) wear and tare of parts

d) Suggest the causes and remedies for following warp way defects

i) broken end

ii) missing end

e) Suggest the causes and remedies for following weft way defects

i) Double pick

ii) Short pick

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

a) i) List the factors considered for build of pirn, justify the selection.

ii) Calculate production of pirn winding in meters/shift of 8 hrs from following parameters.

- Winding speed = 80 mts/min
- Efficiency = 70%

**Marks**

b) Describe with neat sketch the construction and working of negative tappet shedding mechanism.

c) Determine the divident of 7-wheel intermittent take-up mechanism from following data.

i) No. of teeth pulled by Pawl - 1

ii) Ratchet wheel = 24

iii) Standard wheel = 36

iv) Pick-wheel = 40

v) Change wheel pinion = 24

vi) Stud wheel = 89

vii) Stud pinion = 15

viii) Emery roller wheel = 90

ix) Circumference of emery roller = 15.05" ($\pi$D)

**6. Attempt any <u>TWO</u> of the following :** **12**

a) Describe with neat sketch the construction and working of over-pick mechanism.

b) Explain the working of fast reed warp protection mechanism with neat sketch.

c) Suggest the causes and remedies of following machine born defects

i) Reediness

ii) Temple mark

iii) Starting mark

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