22366

11920

3 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.

Marks

1. **Attempt any FIVE of the following:** 　　　　**10**

   a) State object of warping.

   b) State necessity of tensioning device on beam warping machine.

   c) State the function of leasing reed on sectional warping machine.

   d) State objects of sizing.

   e) State the function of softners in sizing.

   f) State the function of size paste level control.

   g) Define -

   　(i)　Stretch

   　(ii)　Size pick up

2.   **Attempt any <u>THREE</u> of the following:**   **12**

   a) List down different winding packages used for beam warping. Draw diagrams of each package and comment on type of creel that can be used for the package.

   b) List down various creels used on warping machine. Compare their relative merits and demerits.

   c) Describe the process sequence to produce stripe pattern on weaver's beam.

   d) Describe function of different ingredients used in preparation of size paste.

3.   **Attempt any <u>THREE</u> of the following:**   **12**

   a) Describe with the help of a diagram cooking of size paste.

   b) State the importance of controlling stretch at sizing machine. How it is done?

   c) What is a lapper ? How lappers occur at sizing machine? State the reasons for their occurance.

   d) Describe functions of different parts of headstock of sizing machine.

4.   **Attempt any <u>THREE</u> of the following:**   **12**

   a) Draw diagram of different creels used on sizing machine and compare their relative merit demerit.

   b) Draw splitting and leasing arrangement for a sizing set having 12 warping beams.

   c) Calculate efficiency of sizing machine from following data.

   (i)   Yarn count = 20^s Ne

   (ii)   Length of warp on warper's beam = 12000 mt

   (iii) No. of ends - 3800

   (iv)   Speed of sizing machine – 40 m/min

   (v)   No. of lappers / 3000 ends / 1000 meters – 2.5

   (vi)   Average time to cut a lapper - 1.5 min.

    (vii) Length of yarn on weaver's beam - 1200

    (viii) Time to doff weaver's beam and insert a fresh lease – 10 minutes

    (ix) Time to creel warper's beam and change set – 100 min

    (x) Miscellaneous loss of time per beam – 10 min

d) Calculate deadloss from following data.

    (i) Weight of sizing material issued – (Z) = 25000 kg

    (ii) Weight of unsized warp – (X) = 1,40,000 kg

    (iii) Weight of sized warp – (Y) – 1,59,600 kg

    (iv) Moisture content of unsized warp – (P) – 8%

    (v) Moisture content of sized warp – (Q) – 7.5%

    (vi) Moisture content of sizing material – (R) 15%

    (vii) Unsized waste – (U) - 475 kg

    (viii) Sized waste – (W) - 950 kg

e) Draw diagram of an automatic size box and label the parts.

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

a) (i) Give classification of warping machine.

    (ii) Describe the concept of single end warping with the help of a neat sketch.

b) Describe the working of stop motions on beam warping machine. State its significance. Describe its effect on quality of beam and efficiency of loom.

c) A strip pattern is to be made on sectional warping machine as follows.

    35   White

    30   Dark Blue

     3   Light brown

     4   Light blue

    72

Marks

The fabric particulars are as follows

Ends/inch = 92   Width of warp = 54"

Picks/inch = 72

Warp count = 30^s cotton

Weft count = 30^s cotton

Creel capacity of machine is 400, 36 ends of $2/30^s$ cotton are used on either side.

(i) Number of complete patterns in warp

(ii) Number of sections to be made

(iii) Number of ends per section

(iv) Width of section

(v) Reedcount if end drawn per dent is 3

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

a) Determine the efficiency of warping machine from following data.

(i) Machine speed = 700 mt/min

(ii) Number of stoppages / 400 ends / 1000 mts = 5

(iii) Time to mend a break = 30 sec

(iv) Creel capacity = 540

(v) Time to change a full beam = 200 sec

(vi) Time to change creel = 3000 sec

(vii) Miscellaneous stoppages / 1000 mts = 100 sec

(viii) No of ends on beam = 500

(ix) Length of warp on beam = 21000 mts

(x) Count of yarn = 40^s

(xi) Wt. of cone = 2.5 lb

b) Describe working of sectional warping machine with the help of a neat diagram.

c) Describe the working of a multicylinder sizing machine with the help of a neat diagram.

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