16172

3 Hours / 100 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.

(8) Use of steam tables, logarithmic, Mollier's chart is permitted.

Marks

1.   **Attempt any TEN :**   **20**

(a)   State the object of pirn winding.

(b)   Define English count and give an expression for the same.

(c)   Define Metric count with formula for the same.

(d)   Define Denier. Give formula.

(e)   What is late shedding ? When it is used ?

(f)   State objective of picking.

(g)   State the reason for top reversing rollers of shedding mechanism having unequal diameters.

(h) State the change places in seven wheel intermittent take up motion. Why two change places are given ?

(i) State the objective of let-off motion.

(j) State objective of weft-stop motion.

(k) State function of lease rods.

(l) State the function of picker and buffer.

(m) State causes of double pick.

(n) A loom working with 180 rpm is weaving a fabric with 64 ends/inch and 56 picks/inch. If the efficiency of 100 m is 84%, calculate the production in a day. (24 hrs.)

(o) Define reed count.

2. **Attempt any FOUR :** 16

(a) Describe passage of yarn on automatic pirn winding machine with the help of a neat diagram.

(b) (i) Calculate the length of yarn in a cone of 40^S Ne weighing 1.5 kg.

(ii) Polyester filament yarn skein of 100 mt. weighs 2 gm. Find the Denier of the yarn.

(c) List down various shedding mechanism, compare their advantages and disadvantages.

(d) Draw 2/1 twill tappet.

(e) Explain working of negative let off mechanism with the help of a neat diagram.

(f) Draw neat labelled sketch of side weft fork mechanism.

3. **Attempt any FOUR :** 16

   (a) Give a detailed note on build of pirn.

   (b) (i) Convert 180 Denier Polyester filament yarn into tex.

   (ii) Convert 60^S Ne (English count) into metric count.

   (c) What is sky eccentricity ? What is its advantage ?

   (d) State objectives of warp protecting mechanism. Compare loose reed and fast reed mechanism.

   (e) Compare early picking with late picking.

   (f) What is the function of temple ? List down various types of temples. Draw diagrams of any two.

4. **Attempt any TWO :** 16

   (a) Describe the working of seven wheel intermittent take up motion with the help of a neat labelled diagram.

   (b) Draw diagram of a shuttle box. State function of each part.

   (c) Describe care to be taken during use and storage of following weaving accessories (i) Shuttle (ii) heald frames and heald wire (iii) Reed.

5. **Attempt any TWO :** 16

   (a) Describe working of tappet shedding mechanism with the help of a neat diagram.

   (b) Describe working of over pick mechanism with the help of a neat diagram.

   (c) (i) State the requirements of automatic loom.

   (ii) (1) Convert 150 Den into equivalent English count

   (2) Two yarns of 8^S Ne and 12^S Ne twisted together, find out the count of resultant double yarn.

6. **Attempt any TWO :** 16

   (a) (i)   Describe 4 types of bad selvedges and state reason for their occurrence.

        (ii) State causes and remedies of reedy fabric.

   (b) Calculate the time required to exhaust a weaver's beam having 1200 yds. of warp of it. The woven cloth is required to have 50 picks/inch. The up-take of warp in weaving is 7% and waste may be taken as 7 yards loom is running at 300 rpm and efficiency is 85%.

   (c) (i)   A beam has 6000 ends. Calculate reed required; for 40 inch loom width, if denting order is 5 ends per dent.

        (ii) Calculate the weight of warp and weft from following data.

            (1)   Ends/inch – 96

            (2)   Picks/inch = 72

            (3)   Warp count = $2/60^s$ Ne

            (4)   Weft count = 120 Den. Polyester

            (5)   Warp crimp = 4%

            (6)   Weft crimp % = 5%

            (7)   Fab width = 54"

            (8)   Length of Fabric = 500 yds

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