17225

16117

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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1.   **Attempt any <u>TEN</u> of the following:**   **20**

a) What are objectives of pirn winding? Classify pirn winding machine?

b) Define metric count and give expression for the same.

c) Find out the length of yarn in a 40^s carded yarn cone weighing 2 kg.

d) 100 mt. of polyester filament yarn weighs 2 gm. Find out denier and tex of the same.

e) Draw shape of $\frac{2}{2}$ twill tappet. On which shaft you will mount this tappet to get $\frac{2}{2}$ twill weave?

f) Draw shape of 5 end sateen tappet. Comment on the mounting of this tappet on counter shaft.

g) Describe what is sley eccentricity.

h) State objects of let-off motion.

Marks

i) Draw diagrams of various types of temple roller.

j) State objectives of wrap protecting motion.

k) Define reed count.

l) Explain function of heads on loom?

m) Give causes of crack.

n) Calculate the length of warp required to weave 600 yards of fabric if the warp crimp is 6%.

o) State causes of starting mark.

2.   **Attempt any <u>FOUR</u> of the following:**   **16**

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

b) Describe features of modern pirn winding machine.

c) The actual output per spindle per minute of an automatic superspeed pirn winder is 672 yards of 12^s cotton yarn. Calculate the time that will be required to wind 1200 lbs of yarn on 30 spindles.

d) Give definition of English count and denier. Give an expression (formula) for the same.

e) Derive an expression for converting cotton count into Denier.

f) A folded yarn is producing by twisting together 8^s, 12^s and 24^s cotton count yarns. Find out the resultant count. If 144 lb of this folded yarn is to be produced. Find out the weights of each component yarns.

3.   **Attempt any <u>TWO</u> of the following:**   **16**

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

b) What is the object of picking? Describe working of a over-pick mechanism with the help of a neat diagram.

c) Describe the construction of a plain loom tappet assuming suitable data.

Marks

4. **Attempt any TWO of the following:** **16**

   a) Describe passage of warp on plain loom with neat sketch.

   b) With the help of a neat diagram, explain seven wheel intermittent take up motion. Derive formula for pick constant.

   c) (i) What is the objective of let off motion? What are disadvantages of –ve let off?

      (ii) Draw diagram of side weft fork mechanism and explain its working.

5. **Attempt any TWO of the following:** **16**

   a) Draw diagram of shuttle box, name each part. Explain the function of each part.

   b) (i) Compare loose reed and fast reed mechanisms.

      (ii) State the functions of:

         1) Oscillating back rest

         2) Lease rods.

   c) Give detailed account for the function and care during use and storage of the following:

      (i) Shuttle

      (ii) Picker

      (iii) Heald

      (iv) Reed

6. **Attempt any TWO of the following:** 16

a) State the causes and remedies of the following:

   (i) shuttle smash

   (ii) reedy fabric

   (iii) Bad salvedges

   (iv) temple marks

b) (i) Calculate the production of a weaving shed per day from following data

   Number of looms - 48

   Average loom speed - 184 rpm.

   Average picks/inch - 48

   Efficiency of shed - 88%

   (ii) 1) What will be the number of ends/inch in a reed of $3/72^s$ stockport.

   2) Define heald count

   Find the count of heald that will be required for weaving a 6 shaft satin fabric using 72^s stockport reed, drawn 3 ends/dent.

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

   epi = 72

   ppi = 64

   wrap count = 30^s Ne

   weft count = 76 Den Polyester

   Length of Fab = 500 yd

   Width of Fab = 54´´

   warp crimp% = 5%

   weft crimp% = 6%

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