21222

3 Hours / 70 Marks

15 minutes extra for each hour

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 FIVE :**   **10**

   (a)   State two objects of cotton bale pressing.

   (b)   Illustrate the cotton manufacturing process.

   (c)   Define yarn evenness.

   (d)   State formula to convert Tex into Ne and Tex into worsted count.

   (e)   State two characteristics of braided fabric.

   (f)   Name machine where yarn faults are removed and machine where abrasion resistance of yarn is improved.

   (g)   Give two requirements for cone dyeing on winding machine.

2. **Attempt any THREE :** **12**

    (a)   State two faults generated during cotton picking and two ginning faults.

    (b)   A cotton and a polyester fibre bale is to be produced. Compare the two in respect of dimensions, weight, wrapper and binding strips.

    (c)   List two objects of comber and carding process each.

    (d)   Distinguish any three features of ring and air jet spun yarns. Draw the yarn structures.

3. **Attempt any THREE :** **12**

    (a)   Define Ne, Tex yarn numbering systems.

    (b)   Convert $2/60^s$ Ne to Tex, Metric yarn numbering system.

    (c)   Two yarns of 40 Tex are doubled. And two yarns of 40^s Ne are doubled. Find resultant count for each doubled yarn. Which is finer of the two doubled yarn ?

    (d)   Give flow chart for both warp and weft coloured yarn fabrics.

4. **Attempt any THREE :** **12**

    (a)   Identify the machine with following characteristics with its attachment :

        (i)   Weft patterning with weft changing device, speeds 200 picks/min.

        (ii)   A loom forming many sheds simultaneously.

        (iii)   A machine which needs to supply yarn in one direction only to form fabric.

        (iv)   A machine where warp and weft threads are not required to form the fabric.

    (b)   Compare weaving process with non-woven process with help of process flow chart.

    (c)   Draw classimat chart and state its two uses.

    (d)   Can yarn sizing be avoided ? Justify your answer.

    (e)   Explain the limitations of tappet loom, dobbey loom and jacquard loom, considering the type of design to be produced and loom speed.

5.   **Attempt any TWO :**   **12**

    (a)   Explain the influence of cotton fibre fineness and strength on yarn properties.

    (b)   Compare carded and combed yarn properties. Draw the process flow chart for above yarns.

    (c)   A 40^s Ne, 40^s worsted, 40 Tex yarns are doubled together. Calculate the resultant count in Ne if there is 8% twist contraction due to doubling.

6.   **Attempt any TWO :**   **12**

    (a)   List three warp winding defects. Give two reasons for each type of defect produced.

    (b)   A fabric having aerial density of 250 g/m is to be produced from 24^s Ne warp and weft. If ends/inch in fabric are 72. Calculate picks/inch if crimp in warp and weft directions are 6.5%.

    (c)   Describe any four fabric defects with sketch.

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