24225

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 Hall.

Marks

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

(a)   List the types of needles used in knitting.

(b)   Draw the loop structure for single jersey fabric.

(c)   Define weft knitting.

(d)   List the elements of warp knitting.

(e)   Explain overlap in warp knitting.

(f)   Explain angle of spirality.

(g)   Define needle line defect in fabric.

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

(a)   Explain the reasons for growth of knitting industry.

(b)   Explain the construction of latch needle with suitable diagram. Explain why this needle is called as self-acting needle ?

    (c)   Explain the impact of tuck and miss stitches on fabric properties.

    (d)   Explain the shogging motion of guide bar in warp knitting.

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

    (a)   Describe the mechanism of loop formation in knitting machine with latch needle.

    (b)   Draw loop diagram of the following knitted fabric structures. Also give graphical representation :

        (i) 1×1 Purl structure

        (ii) 2×2 Rib structure

    (c)   Draw neat lablled diagram for passage of material through tricot warp knitting machine.

    (d)   Suggest the remedies for the following defects :

        (i)   Fabric barre

        (ii)   Drop Stitches

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

    (a)   Classify the knitting machines.

    (b)   Compare the compound needle and latch needle.

    (c)   Explain the passage of material through flat knitting machine with suitable diagram.

    (d)   Explain ornamentation of single jersey fabric with example.

    (e)   Calculate production of weft knitting machine in meters per day from the following particulars :

    Cylinder diameter = 34 inches

    Total Number of feeder = 110

    Cylinder RPM = 30

    Cylinder Gauge = 24

    Efficiency = 80%

    CPI = 20

    Stitch length = 3 mm

    Yarn Count = 40 Ne

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

    (a) Compare woven fabric and knitted fabric with respect to (1) Structure, (2) Raw material, (3) Production rate, (4) Stability, (5) Application, (6) Preparatory processes (7) Properties of fabric produced (8) Labour requirement.

    (b) Explain the function of basic elements of weft knitting machine.

    (c) Compare the rib and interlock fabrics.

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

    (a) Explain the concept of needle transfer in purl machine.

    (b) Compare warp knitting and weft knitting.

    (c) Calculate the knitting fabric weight in grams per square meter from following specifications :

    And also find fabric weight in grams per linear meter.

    Total Number of needles = 3000,

    Stitch length = 4 mm,

    Wales per inch = 30

    Courses per inch = 25

    Yarn Count = 36 Ne

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