22232

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)   Define :

(i)   Weft knitting

(ii)   Warp knitting

(b)   Define :

(i)   Stitch length

(ii)   Course length

(c)   Draw graphical representation of 2×2 Rib structure.

(d)   Draw loop diagram of 1×1 Purl structure.

(e)   Draw structure of float stitch. Draw graphical representation of the same. Briefly explain how float stitch is obtained.

(f) Define following terms used in warp knitting :

(i) Overlap

(ii) Underlap

(g) Explain swinging and shogging motion of guide bars.

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

(a) Draw diagram of 1×1 Rib structure. Give graphical representation of the same. State characteristics and properties of Rib fabric.

(b) List down various elements of knitting machine and state their functions.

(c) Classify weft knitting machines in different categories.

(d) Compare weaving with knitting with respect to

(i) Process

(ii) Structure

(iii) Properties

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

(a) Explain with sketch following terms used in knitting :

(i) Course

(ii) Wale

(iii) Open loop

(iv) Closed loop

(b) List down various elements of Tricot warp knitting machine and state their function.

(c) Describe knitting cycle on latch needle with the help of neat diagrams.

(d) Draw diagram of Interlock structure. Give graphical representation of the same. Explain characteristics and properties of Interlock fabric.

(e) Draw diagram of tuck stitch. Give graphical representation of the same. State the method to produce tuck stitch.

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

   (a)   Explain needle arrangement of cylinder and dial on interlock machine. Explain knitting cycle on interlock machine with help of neat diagrams.

   (b)   Explain following defects of weft knit structure and state causes for occurrence of the same :

      (i)   Vertical lines

      (ii)   Horizontal lines

      (iii)   Drop stitches

      (iv)   Distorted stitches

   (c)   Compare weft knitting with warp knitting with respect to

      (i)   structure

      (ii)   process

      (iii)   properties

   (d)   State the concept of stitch length. State the method to measured in weft-knit and warp knit structure. State its importance.

   (e)   List down various applications of knitted fabric.

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

   (a)   Explain the term tightness factor. State its importance. Derive expression for the same.

   (b)   Draw diagrams of following warp knit stitches :

      (i)   Open and closed loop pillar stitch.

      (ii)   2 and 1 open and closed lap.

      Give chain link notation for the same.

   (c)   List down various types of needles used in knitting. Draw and label each of them. Compare them.

6. **Attempt any TWO :** 12

   (a) Draw diagrams of following 2 bar structures :

      (i) Reverse Locknit

      (ii) Satin

      Give chain link notation for the lapping movement of both guide bars.

   (b) Explain various methods to ornament the single Jersey fabric.

   (c) Calculate the production of a single jersey machine in yards/shift and kg/shift using following data :

(i)	Number of feeder	–	48
(ii)	Cylinder rpm	–	30
(iii)	Course inch	–	32
(iv)	Number of needles	–	1152
(v)	Count of yarn	–	30^S Ne
(vi)	Efficiency	–	88 %
(vii)	Stitch length	–	0.14 inch

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