22357

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 of the following:** **10**

a) Define:

(i) Stitch length

(ii) Wales

b) Classify the weft knitting machines.

c) State the function of fabric spreader.

d) Draw the stitch notation for La-coste structure.

e) State any four applications of warp knitted fabrics.

f) Classify the nonwoven fabrics.

g) List the application of nonwovens in apparel (any four).

Marks

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

a) Compare woven and knitted fabrics based on process of manufacturing and fabric properties.

b) Draw the notation for tuck stitch. Explain the effect of tuck stitch of fabric property.

c) List the differences between single jersey and interlock knitting machine.

d) Describe a method to determine the GSM of knitted fabric.

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

a) Draw the diagram for miss stitch and explain its effect on fabric properties.

b) Explain the function of:

    (i) Chain links

    (ii) Patter wheel

c) Draw the lapping diagram of the following chain notations of warp knitted fabrics.

    (i) 0-1 / 1-0 //

    (ii) 1-0 / 2-3 //

d) State the features of Rib knitting machine.

4. Attempt any THREE of the following: 12

   a) Explain the following weft knitted defects and give causes for its occurrence:

     (i) Vertical lines

     (ii) Drop stitches.

   b) Explain the principle of loop formation on a plain single jersey circular knitting machine.

   c) Draw the loop structure and stitch notation for the following knitted fabrics.

     (i) 2×2 rib

     (ii) 2×2 purl

   d) Calculate the production in meters/hour for a circular knitting machine running with following particulars.

     (i) Machine speed : 200 rpm

     (ii) Number of feeders : 12

     (iii) Courses per cm : 8

   e) Compare properties of rib and purl knitted fabrics.

5. Attempt any TWO of the following: 12

   a) Describe with a labeled diagram the passage of yarn on circular knitting machine.

   b) Compare weft and warp knitting in term of process and fabric properties.

   c) Describe the representative of warp knitted structure with the help of lapping diagram.

Marks

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

   a) Draw and describe the formation of following double knit structure:

     (i)   Milano Rib

     (ii) Punto-Di-Roma

   b) Calculate:

     (i)   Stitch density

     (ii) GSM of knitted fabric having following particulars:

        1) Courses per cm : 20

        2) Wales per cm : 15

        3) Stitch length cm : 0.25

        4) Yarn tex : 26

   c) Describe with a neat diagram the needle punching nonwoven fabric manufacturing process.

————