22357

11819

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 : **10**

(a) List down various methods of manufacturing fabric.

(b) Draw needle loop and sinker loop.

(c) State function of cams and sinker on single jersey machine.

(d) Give graphical representation of La-coste.

(e) Define tightness factor.

(f) Draw structure of tricot lap and give chainlink notations for the same.

(g) Define 'non-woven'.

2. Attempt any THREE : **12**

(a) Give detailed classification of weft knitting machines.

(b) Draw diagram of 1 × 1 Rib structure, give its loop diagram and graphical representation. State properties of rib fabric.

(c) Describe any two weft knit fabric defects. State their causes and remedies.

(d) Compare warp knitting with weft-knitting on any 8 points.

3. Attempt any THREE : **12**

(a) Draw diagram of technical face and technical back side of single jersey fabric. Give graphical representation and loop diagram of the same. State its properties.

(b) Describe the concept of design repeat, needle order and cam order with the help of an example.

(c) Describe the method used to calculate stitch length, tightness factor and GSM of a knitted fabric.

(d) With the help of a neat diagram, explain the passage of yarn on tricot machine.

(e) Explain manufacturing process of non-woven by dry method with the help of a flow chart.

4. Attempt any THREE : **12**

(a) List functions of following elements on rib knitting machine :

(i) Cylinder

(ii) Dial

(iii) Cylinder and dial cams

(iv) Feeder

(b) Calculate the production of a knitting machine in mts/shift and lb/shift from following data :

(i) Cylinder rpm – 30

(ii) Course per inch - 36

(iii) Wales per inch - 32

(iv) No. of feeders - 78

(v) Efficiency – 84%

(vi) Stitch length – 0.15 inch

(vii) No. of needles – 2260

(viii) Count of yarn knitted – 30^s cotton.

(c) Draw loop diagram of following 2 bar warp knit structures :

(i) Locknit

(ii) Sharkskin

(d) Describe manufacturing of needle punched non-woven fabric with the help of a neat diagram.

5. Attempt any TWO : **12**

(a) Compare knitted fabric with woven fabric from point of view of

(i) Manufacturing method

(ii) Interlacement

(iii) Raw material (input), properties of input material

(iv) Properties.

(b) Draw diagrams of tuck and miss stitches. Give graphical representation of the same. Explain method of obtaining these stitches on knitting machine. Explain the effect of these stitches on fabric properties.

(c) State the functions of following parts on warp knitting machine :

(i) Sinker bar

(ii) Presser bar

(iii) Guides

(iv) Pattern drum

(v) Chain links

(vi) Latch wire

6. Attempt any TWO : **12**

(a) Draw diagram of Interlock structure. Draw graphical representation and loop diagram of the same. Comment on needle arrangement of this machine. Draw cam system of interlock and explain interlock knitting.

(b) Draw loop diagram of following structures, briefly explain knitting of following structures :

(i) Milano Rib

(ii) Punto-di-roma

(iii) Texi pique

(c) With the help of neat diagrams, explain knitting cycle on tricot warp knitting machine.
