

22463

23124

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (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 the terms :
 - (i) Course and
 - (ii) Wale
- (b) List the different fabric forming systems.
- (c) Explain with a diagram the following terms :
 - (i) Needle loop and
 - (ii) Sinker loop
- (d) Draw the loop diagram and chain notation for open loop pillar stitch.
- (e) Draw the loop diagram and graphical notation for 1×1 Rib structure.
- (f) State the characteristics of plain single jersey fabric.
- (g) A knitted fabric has 24 wales/inch and 30 courses/inch. Determine the stitch density of this fabric.



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

- (a) Draw a labelled diagram of latch needle. Give function of
 - (i) Latch and
 - (ii) Hook
- (b) Compare Rib knitting with Interlock knitting with regards to :
 - (i) Needle type
 - (ii) Needle arrangement
 - (iii) Yarn requirement and
 - (iv) Production
- (c) Draw the loop diagram and graphical representation for the following stitches used in weft knitting :
 - (i) Knit
 - (ii) Purl
 - (iii) Tuck and
 - (iv) Float
- (d) State the reasons for the growth in knitting industry.

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

- (a) State the function of following cams used on weft knitting machine :
 - (i) Stitch cam
 - (ii) Cleaning cam
 - (iii) Uplift cam and
 - (iv) Guard cam

- (b) Compare weaving and knitting with respect to :
 - (i) Properties of fabric
 - (ii) Yarn properties
 - (iii) Production rate and
 - (iv) Manufacturing process
- (c) State the characteristics of interlock knitted fabric.
- (d) Compare weft knitting and warp knitting process with regards to :
 - (i) Fabric property
 - (ii) Production
 - (iii) Speed and
 - (iv) Machine cost

4. Attempt any THREE of the following :

12

- (a) List any four weft knitted fabric defects. Explain the causes for these defects.
- (b) State the effect of float and tuck stitch on property of knitted fabric.
- (c) Give detailed classification of knitting machines.
- (d) Explain with a diagram, the passage of yarn on flat knitting machine.
- (e) Draw the symbolic and diagrammatic notation for :
 - (i) 2×1 Rib structure and
 - (ii) 1×1 Purl structure

5. Attempt any TWO of the following :

12

- (a) Explain with a diagram, the knitting cycle on a plain single jersey machine.
- (b) Explain with a diagram, the shogging motion of a guide bar on a warp knitting machine.

- (c) A circular weft knitting machine having 16 feeders and 756 needles is working at 82% efficiency with 25 rpm speed. The knitted fabric produced with 24 courses/inch has 0.17 inch stitch length. The count of yarn knitted is 25's. Calculate the production in
- (i) Yards per hour and
 - (ii) Pounds per hour

6. Attempt any TWO of the following :

12

- (a) Draw the loop diagram for 1×1 Tricot fabric. Explain its properties.
 - (b) State the function of following knitting elements on a warp knitting machine :
 - (i) Guide bar
 - (ii) Sinker bar
 - (iii) Needle bar and
 - (iv) Pattern wheel
 - (c) Suggest the method of determining the stitch length of a loop of a weft knitted fabric. Explain the effect of stitch length on properties of knitted fabric.
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