17464

3 Hours / 100 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 ten** : **20**
   a) Define stitch density.
   b) Draw neat sketch of latch needle and label its parts.
   c) State function of sinker.
   d) Draw structure of technical face side of single jersey structure.
   e) How 2 × 2 rib is produced on rib knitting machine ?
   f) How tuck stitch is produced ?
   g) Define tightness factor with formula.
   h) Explain the concept of swinging and shogging motion of guide bar on warp knitting machine.
   i) Explain the underlap and overlap formation on warp knitting machine with the help of a diagram.
   j) Draw diagram of closed lap pillar stitch and give lapping notations.
   k) Draw lapping notations for front and back guide bar of locknit structure.
   l) What is the function of chain links ?
   m) Give classification of flat knitting.
   n) State the concept of laddering.
   o) List various basic properties of yarn required for knitting.

2. Attempt **any four** : **16**
   a) Compare woven fabric with knitted fabric.
   b) Draw diagrams of compound needles and compare it with latch needle.
   c) State properties of single jersey fabric.

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   d) Draw graphical representation of Le-coste. Explain the needle arrangement, cam arrangement of the same.

   e) A single jersey fabric has 30 courses per inch and 24 wales per inch, length of 50 stitches is 8.75 inches and count of yarn is 15^5 cotton. Find the weight in gms per square yard.

   f) Compare warp knitting with weft knitting.

3. Attempt **any four** :   **16**

   a) Give detailed classification of weft knitting machines.

   b) Describe function of positive feeder with the help of a neat diagram.

   c) Draw the loop diagram of 1 × 1 rib structure on 4 wales and 3 courses. Give graphical representation for the same.

   d) Draw diagram of a miss stitch. How this stitch is produced ?

   e) A circular weft knitting machine having 20 feeders is running at 25 rpm. Calculate the production in yards/hr, if course per inch is 24 and efficiency is 84%.

   f) Give detailed classification of warp knitting machine.

4. Attempt **any four** :   **16**

   a) Draw loop diagram of Interlock structure. Give graphical representation of the same.

   b) Draw diagrammatic and graphical representation of full cardigan structure.

   c) A single jersey fabric is made on a machine with 2040 needles with 28 courses per inch from 16^5 cotton yarn and 80 stitches per foot, calculate the weight per linear yard.

   d) List down various elements of Tricot machine. Explain their function.

   e) Draw diagram of a flat bed rib knitting machine and label the parts.

   f) List down various fabric defects. Give causes and remedies of any two.

5. Attempt **any two** :   **16**

   a) Describe knitting action on tricot machine with the help of a neat diagram.

   b) Describe knitting action on Raschel warp knitting machine with a neat diagram.

   c) Describe knitting action on V bed flat knitting machine with help of a neat diagram.

6. Attempt **any four** :   **16**

   a) Explain various test to be conducted for checking quality of knitted fabric.

   b) Draw loop diagram of purl structure. Draw graphical representation of the same.

   c) Draw cam arrangement diagram for 1×1 interlock knitting machine and explain its working.

   d) Draw lapping diagrams of front guide bar and back guide bar of Queen's card structure. Also give lapping notations of the same.

   e) Draw diagrammatic notation of pique poplin structure.

   f) Derive the mathematical formula to determine knitting m/c production in pounds per shift.

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