

# 17459

**15116**

**3 Hours / 100 Marks**

Seat No.

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- 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 of the following: **20****
- a) List down various ways of fabric manufacturing.
  - b) Define ‘course’ and ‘wale’.
  - c) Define stitch length. How it is measured?
  - d) Draw diagram of latch needle and label the parts.
  - e) Draw diagram of sinker, label the parts and state its function.
  - f) Why Latch needle is called as self acting needle?
  - g) Draw diagram of needle used on purl knitting machine.
  - h) Draw loop diagram of tuck stitch.
  - i) What is the effect of float stitches on fabric quantity?
  - j) List down various weft-knitted fabric defects.

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- k) What is tightness factor?
- l) List down the knitting elements on Raschel machine.
- m) Classify flat knitting machines.
- n) List down various applications of warp knit fabric.
- o) Write flow chart for production of knit garment.

**2. Attempt any FOUR of the following: 16**

- a) Compare properties of knitted fabric with woven fabric.
- b) Classify weft - knitting machines in different categories.
- c) Draw structure of technical face side of single jersey fabric and graphical representation of the same.
- d) List down various types of needles used in knitting. Give comparison of the same.
- e) State characteristic features of single jersey fabric.
- f) Calculate the production of weft - knitting machine in yards/day from following data:

Cylinder rpm = 30

Course / inch = 36

Efficiency = 90%

No. of feeders = 48

**3. Attempt any TWO of the following: 16**

- a) Draw the loop of structure of  $1 \times 1$  Rib fabric and graphical representation of the same. Explain knitting cycle on rib knitting with the help of a diagram.
- b) Draw the loop diagram of interlock structure and graphical representation of the same. Draw diagram of cam arrangement and needle arrangement of interlock machine.
- c) Explain in detail planning, drawing and reproduction of knit garment.

- 4. Attempt any FOUR of the following:** **16**
- a) Briefly explain how tuck and float stitches are produced on knitting machine.
  - b) Draw graphical representation of 'La-coste' and 'Cross tuck'.
  - c) Draw diagram of diagrammatic notation. 'Milano Rib' and 'Double pique'.
  - d) Draw diagrammatic notation of 'Punto-di-roma' and 'Texi pique'.
  - e) A circular weft knitting machine having 20 feeders, running at a speed of 25 rpm, is knitting fabric with stitch length equal to 0.15 inch with 756 needles in the machine. The efficiency of machine is 84% and the count of yarn knitted is 18<sup>s</sup>. The fabric is knitted with 24 courses / inch. Calculate the production in yards and pounds (lbs) per hour.
  - f) List down various tests for fabric quality. Explain in detail any two of them.
- 5. Attempt any TWO of the following:** **16**
- a) State the need of jacquard with example.
  - b) (i) Explain the concept of stripper with an example.  
(ii) Explain the concept of plush (pile) fabric.
  - c) Explain knitting cycle of Raschel machine with the help of a diagram.
- 6. Attempt any TWO of the following:** **16**
- a) Explain spreading procedure of knitted fabric. Explain objectives of cutting and discuss various methods of cutting.
  - b) Give comparison of warp knitting and weft knitting.
  - c) Explain the passage of yarn on flat knitting machine with the help of a neat diagram.
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