# C 3418

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Fifth Semester

Textile Technology

TT 1301 — KNITTING TECHNOLOGY

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the basic elements of circular weft knitting.

2. Define the terms :
   (a) Plating
   (b) Needle gating.

3. What are the basic stitches of weft knitting?

4. Name the derivatives of rib fabrics.

5. Name the various products of flat knit fabrics.

6. Calculate the course length for 1000 needle machine producing loops of 0.12" stitch length.

7. Name the basic stitches of warp knitting.

8. What do you mean by rack in warp knitting?

9. Differentiate between the Tricot and Raschel machines.

10. Draw the guide bar lappings for the following notations.
    (a) 1 – 0/0 – 1 (b) 1 – 2/1 – 0

PART B — (5 × 16 = 80 marks)

11. (a) With neat sketches compare the merits and demerits of the basic needle types used in the knitting industry.

Or

(b) (i) Compare the characteristics of woven and knitted fabrics. (8)

(ii) Discuss the yarn quality requirements for weft knitting. (8)

12. (a) Give a detailed comparison of single jersey, rib, purl and interlock structures with respect to their appearance, extension, strength, thickness, weight and dimensional stability.

Or

(b) Discuss in detail the various types of faults in knitted fabrics, stating their causes and remedies.

13. (a) With respect to the flat knitting, discuss the following :

(i) Different types of flat knitting machines.

(ii) Various fabric designs of flat knitting.

Or

(b) With suitable diagrams, discuss the various patterning principles used in weft knitting machines.

14. (a) (i) Classify the warp knitting machines in detail.

(ii) With suitable sketches, discuss the basic elements of the warp knitting machines.

Or

(b) With suitable lapping representation, discuss the following warp knit structures.

(i) Lockknit (ii) Shark Skin

15. (a) Give a detailed account on the various quality control test to be carried out for the weft knitted fabrics.

Or

(b) Calculate the fabric production in

(i) yards/hour and

(ii) pounds/hour for the following circular knitting machine.

| | | | |
|---|---|---|---|
| CPI | – 20 | No. of Feeders | – 10 |
| WPI | – 22 | Yarn count | – 20 Ne |
| M/C gauge | – 16 | Stitch length | – 0.12 inches |
| M/C speed | – 22 rpm | Efficiency | – 90% |
| M/C Diameter | – 18 inches | | |