A 508

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Seventh Semester

Textile Technology

TT 448 — KNITTING TECHNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Name the basic elements of knitting.

2. State the advantages of compound needles.

3. What are the basic stitches of weft knitting?

4. What do you mean by non-linear cams?

5. What do you mean by spirality in weft knitting?

6. Classify the flat knitting machines.

7. What do you mean by needle gating?

8. Differentiate between the tricot and raschel machines.

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

10. Differentiate between the overlap and underlap.

PART B — (5 × 16 = 80 marks)

11. (i) Discuss in detail the yarn quality requirements for weft knitting.

    (ii) Give a detailed classification of weft knitting machines, based on their types, products and end use requirements.

12. (a) (i) Compare the characteristics of woven and knitted fabrics.

       (ii) Compare in detail the weft knitting and warp knitting.

Or

    (b) With neat sketches, explain the knitting cycle for latch and spring bearded needles.

13. **(a)** Compare the plain, rib, purl and interlock fabrics with respect to their appearance, structure, weight, width, elasticity, thickness and dimensional stability.

Or

(b) With neat sketches, explain one complete knitting cycle for rib knitting.

14. **(a)** Calculate the production interms of yards per hour and kgs/hour for a circular knitting machine working with the following data :

Feeders – 10   CP1 – 22   Efficiency – 90%

Speed – 25 rpm   WP1 – 20   Stitch length – 0.12 inches

Needles – 920   Ne – 24

Or

(b) (i) With neat sketches, explain the cam arrangements in flat knitting machines.

(ii) With suitable diagram, explain the yarn passage in flat knitting.

15. **(a)** With suitable diagram, explain one complete knitting cycle for the tricot knitting.

Or

(b) With neat sketches, explain in detail the mill warping and direct warping.

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