

**D 4517**

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

Annual Pattern – First Year

Textile Technology (Fashion Technology) ✓^

FT 1 X 02 — YARN MANUFACTURE

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Give the definitions of "Yarn Count" in the English and Tex systems of Yarn Numbering.
2. Why is it necessary to mix the fibers from different "Lots" of cotton before spinning them to yarn?
3. In tabular form give the speeds and settings of a high production Card.
4. Give the typical draft and roller settings of a second passage draw-frame processing 40<sup>s</sup> mix.
5. Define the term 'Combing Efficiency'.
6. Define the terms 'flyer lead' & 'bobbin lead' as applied to roving frames. Which is preferred and why?
7. Name the parameters of the ring frame that have a part in determining the tension of the yarn being spun.
8. Name the different commercially available methods of yarn spinning.
9. Briefly differentiate between the structure of an OE yarn and Ring yarn.
10. Enlist the types of sewing threads.

**PART B — (5 × 16 = 80 marks)**

11. (a) Name and with sketches describe the natural and synthetic fibers that are processed to form yarns (staple and filament) and give typical values for their various properties.

Or

- (b) Describe the sequence of machines in a modern 'lap type' blow room line, describing the structure and functions of each machine and what happens to the fibers at each stage.
12. (a) Describe the functioning of a chute feed system and compare the merits and demerits of lap and chute feeding of cards.

Or

- (b) Discuss the concept of the autoleveller, describing the various types of autolevellers and their function and where they are best to be fitted.
13. (a) Write short notes on :
- (i) Types of roller drafting systems,
  - (ii) The 'Drafting Wave' and its effects,
  - (iii) The objectives of combing, and
  - (iv) The differences between carded and combed yarn.

Or

- (b) Describe the principle and operation of a modern rotary comber, including the various setting points and what happens to the fibers undergoing the combing operation.
14. (a) Why does a roving frame need a variable speed drive? Describe the various methods of producing a variable speed drive and compare and contrast their advantages and disadvantages.

Or

- (b) Describe the functioning of a ring frame, describing the way in which the various adjustment points are set for different types of fibers and yarns.

15. (a) Name the different methods of condensed yarn spinning and describe any one method in detail. Discuss the differences in structure and end uses between 'ring yarn' and 'condensed yarn'.

Or

(b) Write short notes on :

- (i) Sewing thread production,
  - (ii) Twistless yarn production and end uses,
  - (iii) Yarn Doubling, and
  - (iv) The production and end uses of fancy yarns.
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