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B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2003.

Fourth Semester

Textile Technology

TT 234 — MAN–MADE FIBRE PRODUCTION

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the spinning techniques used for synthetic fibre manufacturing.
2. Trace the year wise growth of consumption of PET fibres.
3. Give the chemical structure of viscose fibre.
4. What are the types of polyethelene fibres?
5. What is melt fracture?
6. State the types of polymer flow in melt spinning.
7. Differentiate between Wet and Dry spinning.
8. What is Ripening in viscose process?
9. State the composition of spin bath.
10. What do you mean by tow and top?

PART B — (5 × 16 = 80 marks)

11. Discuss in detail the various stages involved and process equipment used in melt spinning technology.

12. (a) Discuss the advantages and disadvantages of man–made fibres and critically evaluate their application areas. (10+6)

Or

(b) Comprehensively discuss on the various classes of man–made fibres and their characteristics. (8 + 8)

13. (a) Discuss on the various characteristic requirements of fibre forming polymers.

Or

(b) Explain the various means of production of polyacrylonitrile polymer.

14. (a) Explain the manufacturing process of viscose rayon.

Or

(b) Explain the various developments taken place in the viscose rayon manufacturing process to produce variants of viscose rayon fibre.

15. (a) Explain the various post spinning operations stating the significance of each process.

Or

(b) State the various means of tow to top conversion techniques and explain in detail any one of the techniques. (3 + 13)