

G 250

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 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. Give the property requirements for industrial synthetic fibres.
2. Give some examples of high performance fibres.
3. Classify polymers according to their monomer characteristics.
4. Comment on copolymer.
5. Give the basic principles of laminar flow of fluids.
6. Write short notes on different types of quenching systems.
7. What do you understand by spin stretch in wet spinning process?
8. Explain the role of initiators in the polymerization of acrylonitrile monomers.
9. Why textile materials have to be heat set?
10. List few disadvantages due to various tow to tow converters.

PART B — (5 × 16 = 80 marks)

11. What are viscoelastic fluids? Discuss in detail about the factors influencing shear viscosity of fluids.
12. (a) Explain the polymerization techniques of a self-polymerizing monomer.

Or

- (b) Give a detailed account on the industrial applications of synthetic fibres. What are the properties that make the fibre suitable for those applications?
13. (a) Discuss in detail the production of PET filaments using TPA.

Or

- (b) Describe briefly the manufacture of polypropylene filaments. How the material is stabilized against thermo-oxidative degradation and photo oxidation?
14. (a) Write short notes on :
- (i) Xanthation
 - (ii) Modifiers
 - (iii) Polynosic fibre
 - (iv) Modacrylic.

Or

- (b) Compare wet and dry spinning techniques used for the production of PAN fibres.
15. (a) Write short notes on :
- (i) Mechanism of temporary and permanent set. (6)
 - (ii) Necking of Nylon fibres. (6)
 - (iii) Composition of spin finish. (4)

Or

- (b) Explain the principle and working of Pacific converter.