L 1169

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Second Semester

Textile Technology

TT 1152 — TEXTILE FIBRE PRODUCTION

(Common to Textile Technology – (Textile Chemistry))

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the basic requirements for fibre forming polymers.

2. What do you mean by first order transition temperature and second order transition temperature?

3. What are the impurities found in raw wool?

4. What do you mean by retting?

5. Differentiate between dry and wet spinning techniques?

6. List out the primary variables of melt spinning.

7. State the significance of manifold in melt spinning process.

8. State the advantages of using TPA over DMT in the manufacture of polyester.

9. State the importance of heat setting for synthetic fibres.

10. State the fundamental factors influencing the texturisation process.

PART B — (5 × 16 = 80 marks)

11. (i) Classify the textile fibres in detail according to their origin. (8)

(ii) Give a detailed account on the basic fibre properties for their textile application. (8)

12. (a) Discuss in detail the pre and post cocoon operations involved in the manufacture of silk filaments.

Or

(b) Discuss the physical and chemical properties of the following fibres. (8 + 8)

(i) Wool

(ii) Jute.

13. (a) Explain in detail the spinning of synthetic fibres with special reference to the melt spinning equipments.

Or

(b) Discuss in detail the influence of key variables in dry and wet spinning techniques.

14. (a) With a neat flow chart, explain the manufacture of nylon 6 under the continuous polymerization technique.

Or

(b) Explain the synthesis of acrylics under the solution and suspension techniques.

15. (a) With a neat sketches, explain the tow to top and tow to staple conversion techniques.

Or

(b) Discuss the following :

(i) High speed molt spinning

(ii) Spin finish applications

(iii) Heat setting types

(iv) Texturising methods.
