Reg. No. : | | | | | | | | | | | |

R 3635

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Fourth Semester

Textile Technology

TT 1254 — SPUN YARN TECHNOLOGY — II

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the importance of roller stand angle in ring yarn quality.

2. State the advantages of condensed yarn spinning.

3. What do you mean by fibre belts in rotor spinning?

4. What are the end uses of rotor spun yarns?

5. What do you mean by friction spinning?

6. State the factors influencing the fibre slip in friction spinning.

7. State the spinning limitations of air jet spinning systems.

8. State the false twist principle.

9. State any two principles of twistless yarn manufacture.

10. Write the unique characteristics of self twist yarns.

PART B — (5 × 16 = 80 marks)

11. (a) With suitable sketches, give a detailed account on the various drafting systems used with modern ring frames.

Or

(b) Discuss in detail the types, features and applications of various rings and travellers used in ring frames.

12. (a) Explain the mechanism of yarn formation in rotor spinning with respect to fibre individualisation, fibre assembly and fibre integration inside the rotor.

Or

(b) Give a detailed discussion on the modern developments in rotor spinning with special reference to their automations at various sections of the machine.

13. (a) With suitable diagrams, explain the yarn forming process in friction spinning with special reference to fibre feed, fibre assembly, twist insertion and yarn with drawl.

Or

(b) Discuss the following with respect to the friction spinning :

(i) Limitations (2)

(ii) Latest developments (6)

(iii) Raw material requirements (2)

(iv) Process parameters. (6)

14. (a) Give a detailed discussion on the influence of various process parameters on the structure and characteristics of air jet spun yarns.

Or

(b) Give a detailed comparison on the yarn structure, yarn characteristics, spinning limits and applications of ring, rotor, friction and air jet spun yarns.

15. (a) With suitable diagrams, discuss the Siro and Solo spinning technologies with respect to their operating principle, process parameters and yarn characteristics.

Or

(b) Discuss the following :

(i) Wrap spinning principle (4)

(ii) Core yarn methods (8)

(iii) Self twist spinning principles. (4)