

L 1173

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

Fourth Semester

Textile Technology

TT 1254 — SPUN YARN TECHNOLOGY — II

(Regulations 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the importance of roller and inclination in ring frames.
2. What is the importance of delta zone in ring spinning?
3. What are the basic operations of rotor spinning?
4. What do you mean by Peripheral Twist Extent (PTE) in rotor spinning?
5. State the major limitations of friction spinning systems.
6. Compare DREF2 and DREF3 system with respect to twisting principle.
7. What do you mean by fascinated spinning?
8. What are the limitations of air jet spinning system in producing coarser yarns?
9. Compare the siro-spinning over the conventional yarn folding.
10. What are the advantages of core-spinning?

PART B --- (5 × 16 = 80 marks)

11. (i) Give a detailed comparison on (1) tensile strength (2) elongation at break (3) abrasion resistance and (4) bulkiness of ring and rotor yarns based on the structure. (8)
- (ii) With a neat sketch, explain the working principle of a rotor spinning machine. (8)
12. (a) With suitable diagram, discuss the salient features of any one condensed yarn spinning system of ring frame.

Or

- (b) (i) Draw the profiles of antiwedge rings and elliptical travellers.
(ii) Discuss on any two types of rings and travellers.
(iii) Discuss on the functional requirements of rings and travellers. (4 + 4 + 8)
13. (a) With suitable diagrams, give a detailed account on the machine developments with respect to the Dref spinning systems.

Or

- (b) Give a detailed account on the influence of process parameters on the structure and characteristics of DREF3 spun yarns.
14. (a) Discuss the influence of system variables on the structure and characteristics of air-jet spun yarns with respect to their twisting and end opening actions.

Or

- (b) Discuss on :
- (i) developments in air-jet spinning. (12)
- (ii) application of air-jet spun yarns. (4)

- break
sed on
(8)
5. (a) With suitable diagrams, discuss the different principles of producing twist less yarns.

Or

- anning
(8)
- (b) Discuss the following :

- ased
- (i) Core spun rotor yarns
 - (ii) Principles of siro-spinning
 - (iii) Limitations and applications of wrap spun yarns
 - (iv) Self twist spinning techniques.

(4 × 4)
