

Roll No.

Total Pages : 04

BT-5/D-14

8580

YARN MANUFACTURE-III

TT-303

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt Five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

Unit I

- 1. (a) Discuss the factors affecting Transfer coefficient of a card. What is its significance ? 6
- (b) What is Drafting Force ? What is its importance ? Discuss the factors that affect magnitude of drafting force. 7
- (c) Explain the mechanism of Fibre Hook Formation and Removal During Carding. 7
- 2. (a) With the help of diagram, show the forces acting on fibres during opening/carding. 5

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- (b) Discuss the factors affecting drafting wave formation and then suggest how can these be suppressed ? 10
- (c) What do you mean by Fibre Fractionating Efficiency (or Index) in a Comber ? Define. 5

Unit II

- 3. (a) How does spinning geometry affect the spinning performance and yarn quality ? Explain. 10
- (b) Discuss various factors that affect spinning tension in ring frame and derive a suitable expression for winding tension. 10
- 4. (a) Classify the reasons for end breaks in ring spinning. Can you suggest the norms for end breaks for some specific types of yarn, yarn linear densities ? 10
- (b) Explain the mechanism of twist generation and twist flow during spinning at ring frame. 10

Unit III

- 5. What are the functions of rotor in rotor spinning ?
Discuss various parameters that are to be considered while designing the rotor for a specific material and yarn count. 5+15

- 6. (a) Why two jets are used in air-jet spinning ? 4
- (b) What are the basic constraints of air-jet spinning ? 3
- (c) Compare the structure and properties of air-jet spun and ring-spun yarns. 7
- (d) Describe the mode of yarn formation by DREF Systems. 6

- 8. (a) Describe the design and working principle of TFO. 10
- (b) How is core yarn manufactured ? Discuss different systems. 10

Unit IV

- 7. (a) Describe any two techniques of producing fancy yarns: 10
- (b) List the important characteristics of sewing threads. 5
- (c) Differentiate Dry and Wet doubling Styles. 5