

[Total No. of Questions - 9] [Total No. of Printed Pages - 3]  
(2064)

14652

B. Tech 4th Semester Examination

Yarn Manufacture-II (N.S.)

TE-223

Time : 3 Hours

Max. Marks : 100

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Attempt five questions in all selecting at least one question from Section A, B, C & D. Section E is compulsory and use of non programmable calculator is allowed.

**SECTION - A**

1. (a) Explain backward and forward feed of comber. Which system of feeding gives higher noil? State which feeding system is better and why. (12)
- (b) Why quality of combed yarn is better than carded yarn? Mention the different methods of preparation of stock for combing. (8)
2. (a) State the sequence of operation in combing cycle, draw a combing cycle diagram w.r.t. Index wheel. (12)
- (b) Find waste and draft of a comber with following particulars of six head comber. Nips/min-250 feed wt-60kTex, feed/nip-0.2 inch production-11 hank/8hr. Hank of sliver produced=0.17 Machine efficiency-80% (8)

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**SECTION - B**

3. (a) Explain the building motion of roving frame with suitable diagram. (12)
- (b) State the principle of twisting mechanism in the speed frame with suitable diagram. (8)
4. (a) Explain Flyer and bobbin leading principles of package building. State merits and demerits of each system.(10)
- (b) State the significant modern development in roving frame which contributes to material quality. (10)

**SECTION - C**

5. (a) State the drafting element of ring frame machine. How do the drafting element contribute to good yarn quality? (12)
- (b) Define traveller count and also explain the forces which acts on running traveller. (8)
6. (a) State the causes of end breaks in ring spinning, also suggest some remedial measures. (10)
- (b) What are the modern developments in the ring frame? State their significance on yarn quality. (10)

**SECTION - D**

7. State the comparison of structural properties of yarn produced from ring rotor, airjet and friction spinning system. (20)
8. Explain the principle of DREF-III friction spinning system. Differentiate between DREF-I, DREF-II, DREF-III spinning process w.r.t. yarn properties. (20)

**SECTION - E**

9. (a) How many passages are required between card and comber. Justify.
- (b) Define combing cycle in modern comber.
- (c) Write the objectives of speed frame.
- (d) State the function of flyer in speed frame.
- (e) Explain the importance of break draft in ring frame.
- (f) State the function of spacer in ring frame.
- (g) State the principle of friction spinning.
- (h) State different types of rings of ring frame.
- (i) Arrange in code the fibre quality requirement in rotor spinning.
- (j) Define the term ratcheting in speed frame. (10×2=20)