

16063(J)

June 16

B. Tech 4th Semester Examination

Yarn Manufacture-II (NS)

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 : The candidates are required to attempt one question from each section A, B, C and D and all the subparts of section E.

SECTION - A

1. (a) Which types of cottons are suitable for combing? Discuss various methods of preparing of stock for combing. (10)
- (b) Describe the features of latest developments in combing. (10)
2. (a) What are objectives of combing? With the help of neat sketch discuss the working principle of a comber. (10)
- (b) Discuss the role of machine components and settings of a comber. (10)

SECTION - B

3. (a) With suitable illustrations, explain the drawing and twisting mechanism of a roving frame. (12)
- (b) Discuss the mechanism and functions of differential motion used in roving frame. (8)

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4. (a) With the help of suitable illustrations, discuss the difference between bobbin leading and flyer leading winding principles of a speed frame. (10)
- (b) State the functions of cone drum and discuss its profile with the help of neat sketch. (10)

SECTION - C

5. (a) What are functions of a ring frame? With the help of neat diagrams discuss different parts of drafting mechanism of a ring frame. (10)
- (b) What is task of ring traveler in ring frame? Discuss various types of travelers used in ring frame. (10)
6. (a) With the help of neat sketch discuss the spinning geometry in ring spinning. (8)
- (b) Discuss the latest significant developments of ring spinning. (12)

SECTION - D

7. (a) What is open end spinning? Compare the properties of rotor spun yarn with ring spun yarn. (10)
- (b) With the help of neat sketch, discuss the construction and working of Dref-III friction spinning machine. (10)
8. (a) Describe construction, chief organs and working of rotor spinning machine. (10)
- (b) Explain the basic principle, construction and working of air jet spinning. (10)

SECTION - E

9. (a) Why combed yarn quality is better than carded yarn?
- (b) How many passages are required in between card and comber? Justify your answer.
- (c) State the objectives of speed frame.
- (d) What are the norms of U% and count CV of cotton carded roving?
- (e) State the function of spindles in ring frame.
- (f) A ring frame is running with 24^s Ne, front roller speed: 250 rpm, front roller diameter: 1 inch and efficiency: 85%. Calculate the production (in hanks)/ shift of 8 hours.
- (g) What is break draft, main draft and total draft?
- (h) Write a short note on raw material requirement for rotor spinning.
- (i) State the influences of rotor diameter in rotor spinning.
- (j) State the count range, raw materials and delivery speed of Dref-II spinning process. (10×2=20)