

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

14690

B. Tech 4th Semester Examination

Yarn Manufacture-II (O.S.)

TE-4003

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 atleast one question from section A, B, C and D. Section E is compulsory and user of non-programmable calculator is allowed.

SECTION - A

1. (a) Mention the objective of combing. Explain the principle of combing with neat & clean diagram. (12)
(b) Mention the important setting that affect the noil extraction at combing machine. (8)
2. (a) How will you assess the performance of a combing machine. (10)
(b) Discuss latest developments occur in a combing machine along with their significance. (10)

SECTION - B

3. (a) What is bobbin leading and flyer leading principle at simplex. Which system of winding is more popular and why? (10)
(b) Discuss the function of any five elements of a drafting system. (10)

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4. (a) Design a cone drum profile used on simplex by assuming necessary data. (10)
- (b) Calculate the production of a simplex machine in kg/shift/ machine if spindle rotating at 800 rpm and producing a roving of 1.2 Ne with a TM of 0.9 The efficiency of the machine is 94% and machine have 120 spindles. (10)

SECTION - C

5. (a) Draw the passage of material on a ring frame. Discuss the principle of twisting at ring frame. (12)
- (b) Discuss the causes of end breaking in ring spinning along with their remedies. (8)
6. (a) Give an analysis of various forces acting between ring and traveller. (10)
- (b) What is compact spinning? Mention its advantage over ring spinning. (5)
- (c) Discuss different type of traveller with their suitability. (5)

SECTION - D

7. Explain the principle of Rotor spinning with suitable diagram. Give a comparative assessment of rotor yarn with ring spun yarn. (20)
8. Explain the principle of Murata air-jet spinning with neat & clean diagram. Also give a comparative assessment of yarn properties of air-jet yarn and ring spun yarn. (20)

SECTION - E

9. (a) Mention the function of top comb.
- (b) Mention the level of draft and doubling in a ribbon lap machine.

- (c) Why false twister is used at simplex?
- (d) Mention the level of TM for cotton and polyester roving at simplex.
- (e) Mention the function of spacer in ring frame.
- (f) What is Bonda Waste?
- (g) Mention the count range at rotor and air-jet spinning machine.
- (h) What is a Rotor?
- (i) Define break draft.
- (j) What is detachment setting? (10×2=20)