



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 161420

Roll No.

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B. Tech.

(SEM. IV) THEORY EXAMINATION, 2014-15
YARN MANUFACTURE - II

Time : 3 Hours]

[Total Marks : 100

- Note:**
- (i) Attempt all questions.
 - (ii) Be precise and to the point to answer the questions.

1 Attempt any two questions from the following : $2 \times 10 = 20$

- (a) Explain the operations of rectilinear comber ?
- (b) State the objectives of combing process. With a neat sketch explain the functions of the combing cycles.
- (c) State the features of a modern comber machine.

2 Attempt any two questions from the following : $2 \times 10 = 20$

- (a) What speed frame should do and what should not do ? Derive an equation showing relationship between front roller delivery, spindle speed and bobbin speed in a speed frame machine.
- (b) Explain in details the package building mechanism of modern speed frame.
- (c) A speed frame is running with the following particulars :

Running Roving hank-1.4s Ne

Draft change wheel-40T

Twist wheel-40T

Building motion wheel-45T,

Lifter wheel-40T.

Determine the no. of teeth required in each wheel if the running hank is changed to 1.2s Ne.

3 Attempt any two questions from the following : $2 \times 10 = 20$

- (a) State the features of a modern ring frame. Why ring frame spinning system is still in vogue for several decades.

- (b) Classify Ring body and ring travelers according to profile and shape.
- (c) A Ring frame is running with the following parameters :
- Count of yarn 40s Ne.
T.M.-3.0
Spindle speed - 18000 rpm
No. of spindles per frame - 1008
Twist contraction - 2%
Doffing losses and break down losses - 4%
Determine the production of the ring frame for 24 hours day.
(Assume any relevant technical data.)

4 Attempt any two questions from the following : $2 \times 10 = 20$

- (a) Write notes on : (any two)
- (i) Variable speed drive in ring frame
 - (ii) Fibre migration
 - (iii) Ring data system in ring frame.
- (b) Describe spinning geometry and forces acting on the yarn in different zones.
- (c) Suggest few steps to be taken for improving productivity and quality of Ring frame yarn.

5 Attempt any two parts from the following : $2 \times 10 = 20$

- (a) Explain in details about two-for-one twisting m/c.
 - (b) Briefly describe the quality aspects in doubling and twisting.
 - (c) What is Reeling ? Explain reeling process with different parameters ?
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