



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

PAPER ID : 161401

Roll No.

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B.Tech.

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

Time : 3 Hours]

[Total Marks : 100

Note : (1) Attempt all questions as desired.

(2) Be precise & to the point to answer the questions.

1 Attempt any two parts from the following: **2x10=20**

- (a) Write the sequences for manufacturing combed yarn. State the precautions to be taken for getting better quality of combed sliver ?
- (b) How much pre-comb draft & doublings are employed between carding & comber processes. Elucidate the features & functions of rectilinear comber ?
- (c) What is " Index of combing cycle"? Mention the different index(s) to explain the functions of individual organs of a comber.

2 Attempt **any two** parts from the following: **2x10=20**

- (a) Mention the objectives of roving frame. With a neat sketch show the path of material through a roving frame for package building?
- (b) Mention the types of drafting systems employed in speed frame. Explain any modern type of drafting system of speed frame mentioning draft distribution.
- (c) A speed frame is running with the following parameters:

Count of roving-1.2sNe

TPI-1.1

Twist contraction-4%

Spindle speed-1200rpm.

No. of spindles per frame-120

Determine the production of the speed frame for a shift of 8 hours.

(Assume any relevant technical data, if necessary)

3 Attempt any two parts from the following: **2x10=20**

- (a) State the objectives of Ring frame. With a neat sketch explain the features of any ring frame mentioning draft distribution.
- (b) Discuss the factors considered for optimizing i) Total draft & draft distribution, ii) back zone & front zone roller setting, iii) twist multipliers for processing cotton fibres.
- (c) (i) Find out the total draft required for processing 301s Ne from 1.2sNe roving hank
- ii) Find out the average count for the following production of the spinning department:

20s Ne – 1800kg/day

24sNe- 2220kg/day

40sNe- 1200kg/day

60sNe- 600kg/day.

4 Attempt any two parts from the following: **2x10=20**

- (a) Specify some of the modern developments made in ring frame recently.
- (b) Describe spinning geometry & forces acting on the yarn in different zones.
- (c) A Ring frame is running with the following parameters:

Count of Yarn = 30s Ne.

No. of spindles per frame-1008.

T.P.I. = 17.0

Spindle speed- 1700Orpm.

Determine the production of the ring frame per day of 24 hours.

(Assume any relevant technical data if necessary)

5 Attempt any two parts from the following: **2x10=20**

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