

(b) Describe the spinning geometry and the forces acting on the yarn in different zones.

(c) A ring frame is running with the following parameters:

Count of yarn = 30s Ne

Number of spindles per frame-1008.

TPI = 17.0

Spindle speed - 17000r.p.m.

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

(Assume any relevant technical data if necessary)

**Q5.** Attempt any *two* questions from the following: 10x2=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 the reeling process with different parameters.

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

PAPER ID : 164411

Roll No.

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**BTECH**  
**(SEM. IV) THEORY EXAM. 2014-15**  
**YARN MANUFACTURE-II**

Time : 3 Hours]

[Total Marks : 100

**Note :** i) Attempt the questions as indicated.

ii) Be precise and to the point to answer the questions.

**Q1.** Attempt any *two* questions 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 silver?

(b) How much pre-comb draft and doublings are employed between carding and comber processes. Elucidate the features and functions of rectilinear comber.

- (c) What is "Index of combing cycle"? Mention the different index (s) to explain the function of individual organs of a comber.

**Q2.** Attempt any *two* questions from the following: 2x10=20

- (a) Mention the objectives of roving frame. With a neat sketch, show the path of the material through a roving frame for package building.
- (b) Mention the types of drafting system employed in the speed frame. Explain any modern type of drafting system of speed frame mentioning the 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-1200 r.p.m.

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)

**Q3.** Attempt any *two* questions from the following: 10x2=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) the total draft and draft distribution ii) the back - zone and front - zone roller settings and iii) the 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 of the following production of the spinning department:

20s Ne – 1800kg/day

24sNe - 2220kg/day

40sNe - 1200kg/day

60sNe - 600kg/day.

**Q4.** Attempt any *two* questions from the following: 10x2=20

- (a) Specify some of the modern developments made in the ring frame recently.