Roll No. Total No. of Pages: 02

Total No. of Questions: 09

B.Tech.(Textile) (2011 Onwards) (Sem.-4)
YARN MANUFACTURE-I

Subject Code: BTTE-401 Paper ID: [A2750]

Time: 3 Hrs. Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly:

- a. What are the objectives of ginning?
- b. Why fibre fineness is so important in yarn manufacturing?
- c. Convert 4.5 micronaire into dtex.
- d. If the numerical value of yarn linear density expressed in Denier and that in metric count system is same than what will be the numerical value?
- e. What is the significance of fan speed in blowroom line and what are factors on which it is decided?
- f. In carding m/c for cylinder wire which type angle is preferred for processing of cotton fibre acute or obtuse and gives reason to choose a front angle.
- g. What is Polar drafting system?
- h. Write a short note on drafting waves.
- i. What is close loop and open loop auto-leveling system?
- j. What is actual draft and mechanical, what is the relation between them and which one is higher?

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SECTION-B

- Q2. Explain with neat sketch the working principle of saw gin machine and what precautions to be taken for reduction of contamination level at ginning stage.
- Q3. What is cleaning efficiency and how it can be calculated? What is the significance of cleaning efficiency and what are factors on which cleaning efficiency of blowroom line depend?
- Q4. A carding m/c produces 0.17 hank sliver from 13 oz/yd lap by generating 6% waste. What will be the mechanical draft?
- Q5. Calculate the production of the draw frame machine in kg/day from the following data:

Diameter of the front roller is 30mm.

RPM of front roller is 120 and efficiency of machine 90%,

hank feed - 0.115, number of doubling-8,

break draft -1.8, main draft - 4.5

Q6. Explain the recent development in different section of the drawframe machine and how these developments help in improvement in yarn production/quality.

SECTION-C

- Q7. Explain the recent developments in blow-room line and what are the significance of developments in blow room process.
- Q8. Draw the sketch of revolving flat card and explain the function of different organs. What is the impact of changing, speed and setting on the quality of sliver?
- Q9. What are the different factors influencing drafting wave irregularities. How drafting wave irregularities can be minimized?

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