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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Textile Engg.) (2011 Onwards) (Sem.-8)

NON-CONVENTIONAL YARN MANUFACTURE

Subject Code : BTTE-807

M.Code : 72376

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. 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. Answer briefly :**

- a) State the technologically possible production speeds of ring and rotor spinning systems considering the latest generation machine.
- b) Give an advantage and one disadvantage of electrostatic spinning system.
- c) State the technological problems in raising the rotor speed as compared to the speed achieved in the present generation machine.
- d) State the normal speed of opening roller and spinning drum in friction spinning system.
- e) What according to you is the basic problem of finer count spinning in rotor spinning system?
- f) State the problems associated with ring spinning which led to the search of alternative spinning system.
- g) In producing a 14^sNe friction spun yarn from 100% cotton sliver of linear density 3.42 g/m, calculate the speeds of the drafting units when you keep the delivery rate 130 m/min.
- h) Give the possible application field of rotor and friction spun yarns.
- i) State the role of peripheral twist extent in deciding the spinning stability and yarn properties.
- j) Why Siro yarn result more uniform and stronger yarn as compared to ring yarn?

SECTION-B

2. Discuss the twist insertion technique in rotor spinning system with necessary sketch.
3. With the help of suitable sketch, describe the working of a vortex spinning system. Mention the application of such yarn.
4. How the rotor dimension, navel and the opening roller speed influence properties of the spun yarn?
5. Give a detail assessment of the following parameters in deciding the properties of friction spun yarn :
 - a) Yarn delivery rate.
 - b) Drum speed
 - c) Friction ratio.
6. Write a short note on Siro spun yarn production giving detail of the factors that may affect the properties of the yarn.

SECTION-C

7. Give a detail assessment of the fibre quality requirements for ring, rotor, air jet and friction spinning. Also arrange the quality requirements in order of their importance. Give a brief review on the influence of these parameters.
8. Indicating the structural differences, give an Assessment of the structure property relationship of rotor, air jet and ring spun yarns.
9. Write short notes on **(any two)** :
 - a) Problems associated with rotor spinning of manmade fibres .
 - b) Problems of air jet spun yarn and remedial measures.
 - c) Core yarn production, the influence of the associated parameters and application field of core spun yarn.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.