Roll No…….. **Total No. of Printed Pages: 1**
Total No. of Questions: [09]

B. Tech (Textile Engg.) (Semester – 7th)
NON CONVENTIONAL YARN MANUFACTURE
Subject Code: BTEXS1701
Paper ID: [18112633]

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(2 marks each)**

Q1. Attempt the following:

a) Why fibre length and length uniformity are very important parameter in ring spinning?
b) State the machine parameters which can help in reducing the rigidity of air jet spun yarn.
c) Show the direction of rotation of the spinning drums in friction spinning.
d) State the reason of superior mechanical and physical properties of Siro yarn as compared to conventional ring yarn.
e) State the importance of drum speed in friction spinning in deciding the characteristics of yarn.
f) How compact spun yarn is different from conventional ring spun yarn? State the difference in the mechanical and physical properties of the yarns.
g) State the application field of Siro spun yarns.
h) State the basic principle of self twist yarn production.
i) Why the abrasion resistance of rotor spun yarn is higher whereas that for AJS is poor?
j) State one limitation for each of ring and rotor spinning system.

Section – B **(5 marks each)**

Q2. With the help of a diagram discuss the principle of core spinning system and state the application of such yarn.

Q3. With the help of neat sketch discuss the twist insertion technique in rotor spinning. Also state the role of rotor grove geometry in deciding the yarn characteristics.

Q4. Discuss the role of opening roller, influence of rotor diameter and transport channel in governing the yarn characteristics.

Q5. Give an assessment of the structure property relationship of ring, rotor and air jet spun yarns.

Q6. What are problems associated with air jet spun yarn? How can you minimize the problems?

Section – C **(10 marks each)**

Q7. Give a detail assessment of the fibre quality requirements for ring & rotor spinning systems and clearly mention the role of each quality parameters.

Q8. Give an assessment of the problems associated with spinning of man made or wool fibres in rotor spinning. Suggest some remedial measures too in either case.

Q9. With the help of neat sketches discuss the yarn production techniques and the properties of Siro and compact spun yarns.