

J-21-0013

B. Tech. EXAMINATION, 2021

Semester V (CBCS)

NON-CONVENTIONAL YARN MANUFACTURE

TE-504

Time : 2 Hours

Maximum Marks : 60

The candidates shall limit their answers precisely within 20 pages only (A4 size sheets/assignment sheets), no extra sheet allowed. The candidates should write only on one side of the page and the back side of the page should remain blank. Only blue ball pen is admissible.

Note : Attempt *Four* questions in all, selecting *one* question from any of the Sections A, B, C and D. Q. No. 9 is compulsory.

Section A

1. Discuss in detail the fibre quality requirements for various non-conventional spinning systems. **15**
2. Discuss the problems in brief encountered in conventional spinning that led to the advent of unconventional spinning systems of yarn formation. **15**

Section B

3. What are the factors to be considered while designing a rotor ? Explain them in detail. **15**
4. Discuss the principle of air-jet spinning machine with a diagram and outline the basic constraints lying with this spinning system. **15**

Section C

5. Describe the principle of DREF spinning. **15**
6. What is the concept of compact or COM4 spinning ? Discuss different types of compacting devices on a ring-frame. How do compact spun yarns differ from ring spun yarns ? **15**

Section D

7. (a) What is core spinning ? How are core spun yarns manufactured ? **7.5**
- (b) What are Siro-spinning and Solo-spinning ? How do they differ ? **7.5**
8. (a) Discuss wrap spinning. **7.5**
- (b) Explain electrostatic spinning technology. **7.5**

(Compulsory Question)

9. (a) Name two open end spinning processes.
- (b) What are the tasks of rotor spinning machine ?
- (c) Explain, why rotor spun yarn is more even than equivalent ring spun yarn.
- (d) What are MJS and MTS spinning system ?
- (e) Why are two nozzles used on MJS against single nozzle on earlier machine ?
- (f) What are the advantages of Vortex spinning over MJS air-jet spinning ?
- (g) Name *two* Friction spinning systems.
- (h) Why does ring and traveler life reduce in case of compact spinning ?
- (i) What are the limitations of solo-spinning system ?
- (j) What is Repco spinning ? **1.5×10=15**