KUMARAGURU college of technology
character is life

Register Number: ……..

B.TECH DEGREE EXAMINATIONS: MAY 2015

(Regulation 2009)

Fifth Semester

TEXTILE TECHNOLOGY

TTX108: Spinning Technology - II

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Maximum possible speed of traveler in ring spinning machine
   a) 15 m/s b) 25 m/s
   c) 45 m/s d) 75 m/s
2. Balloon control rings are more effective
   a) At the end of the doff b) At the middle of the doff
   c) At the beginning of the doff d) Throughout the doff
3. Generally the type of twist inserted in ring spinning machine
   a) Z b) S
   c) Z on S d) C
4. Maximum possible Spindle speed (mechanical) in ring frame
   a) 5000 RPM b) 25000 RPM
   c) 10000 RPM d) 50000 RPM
5. Hairiness of yarns are majorly influenced by
   a) Traveler number b) Twist level
   c) Delivery speed d) Spinning triangle
6. With compact spinning, the main improvement in yarn characteristics is
   a) Reduction in yarn hairiness b) Reduction in unevenness
   c) Improvement in strength d) Improvement in friction
7. Percentage of straight fibres in air jet spun yarn (approximately)
   a) 10% b) 40%
   c) 30% d) 80%

8. Rotor spun yarns are mainly found in _____ fabrics

a) Shirting b) Denim

c) Filter d) Wipe

9. SIRO spinning system preferably developed for processing _____ fibres.

a) Cotton b) PET

c) Viscose d) Wool

10. In twistless spinning fibres are held together by

a) Friction b) Adhesive

c) Cohesion d) Contact

PART B (10 x 2 = 20 Marks)

11. How are floating fibres controlled during drafting?
12. What is false twist?
13. What is mean by winding and binding coils in ring spinning?
14. What are the effects of choosing higher and smaller traveler mass in ring spinning?
15. List the advantages of compact spinning.
16. What are the different methods of compacting?
17. What are the functions of opening roller in rotor spinning?
18. Why are fine fibers preferable for air jet spun yarn?
19. Draw the structure of Bobtex yarn.
20. List the applications of self twist spun yarns.

PART C (5 x 14 = 70 Marks)

21. a) (i) Why does the “stick-slip” occurs during the roller drafting of staple fibers? (6)

(ii) List the causes of periodical and random variations. (8)

(OR)

b) Compare different twist insertion principles and their advantages.

22. a) (i) How does hardness of cots influence quality of spun yarns? (8)

(ii) What is the purpose of break draft in ring spinning? (6)

(OR)

b) (i) Explain the working of cop builder motion. (8)

(ii) What is the role of balloon control ring in ring spinning? (6)

23. a) (i) What is mean by spinning triangle and how does it influence quality of yarns? (8)

(ii) Differentiate between regular and compact spun yarns. (6)

(OR)

b) What is meant by compact spinning? What are the advantages of compacting? How are the advantages realised?

24. a) How are the fibres integrated into yarn in rotor spinning? Explain.

(OR)

b) (i) Discuss critical process parameters affects quality of friction spun yarns. (7)

(ii) With appropriate sketches, explain the working of Murata Jet Spinning Machine. (7)

25. a) (i) Illustrate the different forms of self twist yarns with suitable sketches. (7)

(ii) Which conventional yarn is supposed to be replaced by SIRO spun yarns? What are the other possible applications of SIRO spinning? (7)

(OR)

b) Suggest and explain suitable spinning technology for producing composite yarns.

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