Register Number: ……..

B.TECH DEGREE EXAMINATIONS:APRIL/MAY 2014

(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. In the drafting process, majority of floating fibers move at the speed _____
   a) between delivery roller and feed roller b) of delivery roller
   c) of feed roller d) greater than delivery roller
2. Doubling _____ irregularity whereas drafting _____ irregularity
   a) increases, increases b) reduces, reduces
   c) increase, reduces d) reduces, increases
3. The drafting system in ring spinning is mostly inclined to an angle between _____
   a) 45º - 60º b) 15º - 30º
   c) 60º - 90º d) 30º - 36º
4. In ring traveller system, better heat dissipation is achieved with _____
   a) Higher traveller weight b) lighter traveller weight
   c) high contact area between traveller and ring d) lower contact area between traveller and ring
5. Compact spun yarn needs _____ size add on than that of normal ring yarn for weaving application.
   a) higher b) lower
   c) The same d) zero
6. The raw materials properties are better utilized with _____ spinning system
   a) ring b) rotor
   c) friction d) compact
7. In rotor spinning, back doubling takes place in _____
   a) opening roller b) take up roller
   c) rotor groove d) naval
8. Friction ratio in friction spinning is the ratio of _____
   a) surface speed of friction roller to that of yarn b) surface speed of opening roller to that of yarn
   c) surface speed of back drafting roller to spinning speed d) surface speed of friction roller to that of front drafting roller
9. The main parameter that influence the quality and performance of SIRO yarn is _____
   a) spindle speed b) strand spacing
   c) break draft d) twist
10. Yarns made from _____ system have zero twist zones.
    a) SIRO spinning b) rotor spinning
    c) friction spinning d) self twist

PART B (10 x 2 = 20 Marks)

11. What is index of irregularity?
12. State the influence of drafting system on yarn quality.
13. What are the types of flutes on ring frame drafting rollers and their influence on drafting performance?
14. In ring spinning, why is the front top roller over hang?
15. List the advantages of compact spun yarn.
16. How does compact yarn structure differ from normal ring spun yarn?
17. Brief the limitations of rotor spinning system.
18. Compare air jet spinning and air vortex spinning
19. What are yarn quality improvements due to doubling?
20. List the classifications of fascinated yarn.

PART C (5 x 14 = 70 Marks)

21. a) i) Discuss the principle of roller drafting with a neat diagram. (10)
    ii) How periodic faults are generated? (4)

(OR)

    b) i) Describe the role of ring and traveller in ring spinning. (8)
    ii) How the end breaks are reduced in modern ring spinning machine? (6)

22. a) i) Discuss the various operations carried out in ring spinning machine. (10)
    ii) Calculate the grams per spindle per day for a ring frame working with a spindle speed of 20000 rpm, 40s Count, 4.2 TM and 96% Efficiency. (4)

(OR)

    b) Illustrate the working of builder motion mechanism in a modern ring spinning machine.

23. a) Discuss the working principle of any two types of compact spinning systems.

(OR)

b) Discuss the properties and application of compact spun yarns.

24. a) i) Explain the working principle of rotor spinning system with a neat diagram. (10)

ii) List yarn characteristics of friction spun yarn. (4)

(OR)

b) Discuss the working principle of air jet spinning system with a neat diagram.

25. a) i) Illustrate the working principle of Two for one twister. (8)

ii) Discuss the factors that influence strand twist in self twist spinning system. (6)

(OR)

b) i) Describe the principle of operation of SIRO spinning system. (8)

ii) Discuss any one type of fancy yarn spinning system. (6)

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