B.TECH DEGREE EXAMINATIONS: MAY/JUNE 2013

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. The short term periodic variation occurs between ------

   a) 1 to 50cm   b) 1 to 15m

   c) 1 to 50mm   d) 1 to 15 inches

2. The CV of the feed material is 14.5% and the process adds a CV of 5.7%. What is the CV% of output product?

   a) 15.58   b) 15.78

   c) 20.2   d) 20

3. The creel type used in modern spinning machine is ------ type creel

   a) Skewer   b) Birken head

   c) Umbrella   d) Two tier

4. Total draft = -----

   a) Break draft ÷ Main draft   b) Main draft ÷ Break draft

   c) Main draft × Break draft   d) Main draft + Break draft

5. The compact spinning system produces yarn with ------

   a) Low hairiness   b) High strength

   c) Low hairiness and High strength   d) Low hairiness and low strength

6. The twist multiplier employed in compact spinning is ----- when compared to conventional ring spinning (for the same count of yarn spun)

   a) Low   b) high

   c) Equal   d) optimum

7. The maximum production rate of modern rotor spinning is ----- m/mint

   a) 200   b) 400

   c) 2000   d) 4000

8. The rotor speed ranges from----- m/s

   a) 90 to 110   b) 60 to 90

   c) 35 to 50   d) 120 to 190

9. Two single yarn of 30's N_e and 19.68 Tex is doubled using doubling process. The resultant count is ----- Ne

   a) 15

   b) 30

   c) 60

   d) 45

10. Bobtex process is also known as ---- spinning system

    a) Filament

    b) Integrated

    c) Hallow spindle

    d) Wrap

PART B (10 x 2 = 20 Marks)

11. What is traveler lag?

12. What do you mean by balancing twist?

13. Give the advantages of umbrella creel.

14. Write short notes on types of flutes in ring spinning.

15. Give the application of compact yarn.

16. Give the principle of compact spinning.

17. What do you mean by back doubling in rotor spinning?

18. Give the limitations of friction spinning.

19. What is SIRO spinning?

20. What is self-twist spinning?

PART C (5 x 14 = 70 Marks)

21. a) Explain the balloon theory in detail.

    (OR)

    b) Explain the drafting theory and Principles of doubling, drafting.

22. a) Explain with neat sketch the ring cop formation mechanism in ring spinning.

    (OR)

    b) Calculate the production /spindle in grams/8.5 hours of a spinning machine using the following details.

       i) Weight of feed material = 105 grains/ 15 yards.
       ii) Break draft= 1.2
       iii) Main draft = 20.8
       iv) Twist multiplier = 4.2
       v) Spindle speed : 16,500 rpm
       vi) Efficiency = 95

23. a) Explain with neat sketch the working principle of Rieter Com4 spin compact spinning

process.

(OR)

b) Explain with neat sketch the working principle of Sussen Elite compact spinning process.

24. a) With neat sketch explain the working of Air vortex spinning system.

(OR)

b) With neat sketch explain the working principle of DREF 3 friction spinning process.

25. a) With neat sketch explain the working principle of Two for one twister.

(OR)

b) With neat sketch explain the SIRO spinning process.

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