KUMARAGURU
college of technology
character is life

Register Number: …….

**B.TECH DEGREE EXAMINATIONS: MAY 2015**

(Regulation 2013)

Fourth Semester

**TEXTILE TECHNOLOGY**

U13TXT402: Yarn Manufacturing Technology-II

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

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. As we increase the yarn twist, the yarn strength
   a) Decreases up to a point and then increases
   b) Increases steadily
   c) Increases up to a point and then decreases
   d) Decreases steadily
2. Coriolis Forces influences the shape of a yarn balloon------(True or false)
3. In Murata air-jet spinning system
   a) Both the nozzles rotate in clock wise
   b) First nozzle rotates in clock wise and second nozzle rotates in anti-clockwise
   c) Both the nozzles rotate in anti-clock wise
   d) Both the nozzle not rotates
4. The fibres' contribute strength of compact yarn is_____ than ring spun yarn
5. In rotor spinning yarn tension is maximum at
   a) The yarn formation point
   b) The navel
   c) The withdrawal roll
   d) The radial portion of the yarn within the rotor
6. Maximum rotor speed of a modern rotor spinning machine is_____ rpm
7. Core-sheath ratio of DREF3 yarn is----------
   a) 70:30
   b) 80:20
   c) 30:70
   d) 20:80

8. Core fibres in air jet yarn are----------

9. Strand spacing can be related to strand angle by the equation

a) $S = 2l \sin(\Theta/2)$ b) $S = l \sin(\theta/2)$

c) $S = 2l \sin \Theta$ d) $S = 4l \sin(\Theta/2)$

10. The technology that produces S & Z twists in the same yarn ----------Spinning

**PART B (10 x 2 = 20 Marks)**

**(Not more than 40 words)**

11. What are the reasons for the popularity of ring spinning system?

12. Why spacers are used between the two aprons?

13. Calculate back doubling for a 40 mm rotor revolving at 80,000 rpm when the delivery speed of the machine is 200 m / min.

14. What are the limitations of Dref spinning?

15. List the advantages of friction spun yarn.

16. State the techno economic of Air Jet spinning.

17. What is wrap spinning?

18. What is GIMP yarn? Give its structure.

19. Compare siro doubling and regular doubling.

20. Mention different types of fancy yarn.

**PART C (5 x 14 = 70 Marks)**

**(Not more than 400 words)**

**Q.No. 21 is Compulsory**

21. Express with neat sketch the operating principle of Rolor spinning.

22. a) Explain the balloon theory with neat diagram and formula derivation for coriolis & other forces acting on the balloon during ring spinning.

**(OR)**

b) Describe the working principle of builder motion in ring spinning.

23. a) Explain the process of yarn formation in compact spinning system.

**(OR)**

b) Illustrate the structure and properties of compact spinning yarn.

24. a) Describe the working principle of DREF3 friction spinning, and yarn properties.

**(OR)**

b) Elaborate detail about air jet spinning with suitable diagram and technical specifications.

25. a) Explain with neat sketch of Siro yarn spinning with yarn properties.

**(OR)**

b) Explain with neat sketch of pra-fil spinning system.

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