



B.TECH DEGREE EXAMINATION: JUNE 2015

(Regulation 2009)

Third Semester

TEXTILE TECHNOLOGY

TTX103: Spinning Technology - I

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Uniformity ratio for normal variety of cotton fibres is in the range of
 - a) 0.2-0.3
 - b) 0.3-0.4
 - c) 0.4-0.5
 - d) 0.6-0.7
2. _____ gin is mostly used for Indian cottons
 - a) Saw
 - b) Macarthy
 - c) Roller
 - d) Air blast saw
3. Feeding of cotton flocks in clamped condition in blow room gives _____
 - a) an intensive and good opening action
 - b) an intensive but poor opening action
 - c) gentle and good opening action
 - d) gentle but poor opening action
4. If the waste extraction in card is 5% and the actual draft is 83 in a card, then the mechanical draft is
 - a) 63.1
 - b) 78.8
 - c) 87.36
 - d) 88
5. The Licker-in wire angle used while processing synthetic fibres is
 - a) -5°
 - b) 5°
 - c) 10°
 - d) 15°
6. Six slivers are doubled together and given three passages on draw frame. The total number of doubling is
 - a) 6
 - b) 8
 - c) 36
 - d) 216

7. If 8 slivers each having CV% of 8 are doubled, the CV% of the resultant sliver before going to the drafting arrangement is
 - a) 1.3%
 - b) 2.8%
 - c) 6.1%
 - d) 8%
8. The linear density of super lap in g/m is around
 - a) 20
 - b) 60
 - c) 150
 - d) 450
9. The needle density (needles/cm) in top comb is around
 - a) 5
 - b) 10
 - c) 20
 - d) 30
10. If the flyer speed is 1000 rpm and the delivery rate is 20 mpm, then the TPI in roving is
 - a) 1.0
 - b) 1.27
 - c) 26.31
 - d) 50

PART B (10 x 2 = 20 Marks)

11. Why the trash percentage in Indian cottons is higher than imported cottons?
12. Distinguish the terms Degree of cleaning and Cleaning Efficiency.
13. List the various factors influence the cylinder loading.
14. Show the different wire parameters with simple diagram.
15. Relate the 5% AFIS length and roller setting in draw frame.
16. List out the various factors influence the roller lapping in draw frame.
17. Why even number of machines is employed between card and comber?
18. Distinguish the term Concurrent feed and Counter feed in comber.
19. What do you mean by “Ratching” in speed frame?
20. What is Twist crown and list its function in speed frame?

PART C (5 x 14 = 70 Marks)

21. a) Explain the working principle and construction of Saw Gin and evaluate the influence of ginning performance on yarn quality and factors to be considered for selection of ginning machine.

(OR)

- b) (i) What is the need for blending of fibres and explain the working principle and construction of blending machines. (7)
- (ii) With the neat sketch, explain in detail the working mechanism of automatic scutcher to produce a uniform lap. (7)

22. a) Discuss the concept, advantages and limitations of different carding theories and explain the flat–cylinder interaction on the quality of card sliver.

(OR)

b) Discuss the influence of card clothing on nep removal efficiency of the carding machine and explain the wire grinding and its influence on card sliver quality.

23. a) Discuss the drafting theory with respect to ideal drafting, actual drafting and drafting waves and explain the developments in draw frame drafting system to improve the quality of sliver.

(OR)

b) Explain the working mechanism of open loop auto leveler in Draw frame and various parameters involved in testing of efficiency of Auto leveling.

24. a) Discuss the construction and working principle of super lap machine and explain the influence of comber preparatory on comber performance and quality.

(OR)

b) Explain the combing cycle for forward and backward feed in comber machine with suitable diagrams.

25. a) Explain the speed frame bobbin builder mechanism with respect to bobbin shape and state the function of differential gear box in bobbin building.

(OR)

b) Discuss the influence of roller setting, top roller pressure and spacer size on roving with suitable illustrations.
