

B.TECH. DEGREE EXAMINATIONS: OCTOBER / NOVEMBER-2008

Third Semester

TEXTILE TECHNOLOGY**U07TF304: Yarn Manufacturing Technology I**

Time: Three hours

Maximum marks: 100

Answer ALL Questions: -

PART A (20 x 1 = 20 Marks)

1. Gin turn out is
 - A. Weight of linter
 - B. Weight of lint
 - C. Weight of lint + seeds
 - D. Weight of seeds
2. In knife roller gin, the setting between leather roller and knife roller should be
 - A. 1/3 rd of the diameter of the largest seed
 - B. thrice the diameter of the largest seed
 - C. 1/3 rd the diameter of the smallest seed
 - D. thrice the diameter of the smallest seed
3. Which of the following gins will have greater beating
 - A. Knife roller gin
 - B. Single roller gin
 - C. Saw gin
 - D. Double roller gin
4. Compared to roller gin, saw gin will have
 - A. Higher production and power requirement
 - B. Higher production and lower power requirement
 - C. Lower production and higher power requirement
 - D. Lower production and power requirement
5. The most preferred beater for processing man-made fibres is
 - A. Shirley Opener
 - B. Kirschner Beater
 - C. Crighton Opener
 - D. Three Bladed Beater
6. On the scutcher, the ratio of fan speed to beater speed required for synthetic fibres, as compared to cotton fibres, is
 - A. Equal
 - B. Incomparable
 - C. Higher
 - D. Lower
7. In a scutcher the calendar roller pressure for viscose as compared to cotton fibres is
 - A. Higher
 - B. Lower
 - C. Same
 - D. Incomparable
8. The cleaning efficiency of cotton blowroom line lies between
 - A. 40 & 50
 - B. 50 & 60
 - C. 60 & 75
 - D. 80 & 95
9. Longer and finer fibres require a card cylinder having
 - A. Higher wire point density
 - B. Lower wire point density
 - C. Higher speed
 - D. Lower speed
10. Compared to lap, nep level in card sliver should be
 - A. Same
 - B. Zero
 - C. Less
 - D. More

11. Level of card waste is comparatively higher in
 - A. Conventional flexible fillet card
 - B. Semi-high production card
 - C. High production card
 - D. Modern super high production card
12. Production rate of card processing finer fibres is comparatively
 - A. Less
 - B. More
 - C. Same
 - D. Depends on fibre strength only
13. Hooks which are preferentially removed in roller drafting are
 - A. Trailing
 - B. Leading
 - C. U-Shaped
 - D. Double
14. When the sliver cross section remains unaltered with the change of draft, drafting force is
 - A. equal to the draft
 - B. not correlated with the draft
 - C. directly proportional to the draft
 - D. inversely proportional to the draft
15. The purpose of using auto-levellers is to improve
 - A. Fibre orientation
 - B. Hank C.V%
 - C. Strength
 - D. Faults
16. When the weight of the sliver fed into the drawing is increased
 - A. Hook removal of fibres and Uniformity of the drafted sliver decreased
 - B. Hook removal of fibres and Uniformity of the drafted sliver increased
 - C. Hook removal of fibres increased and Uniformity of the drafted sliver decreased
 - D. Hook removal of fibres decreased and Uniformity of the drafted sliver increased
17. Which of the following machines best removes the neps
 - A. Carding
 - B. Drawframe
 - C. Comber
 - D. Blowroom
18. The increase in pre-comber draft
 - A. reduces the waste at comber
 - B. increases the waste at comber
 - C. does not change the comber waste
 - D. remove the hook
19. Placing a condenser in drafting zone lead to increase in
 - A. Nep generation
 - B. Fly generation
 - C. Hairiness
 - D. Evenness
20. Maintaining closer and constant settings between nipper and half-lap throughout the combing cycle will result in
 - A. improved nep removal efficiency
 - B. decreased nep removal efficiency
 - C. higher level of variation in combed sliver
 - D. higher head to head noil variation

PART – B (5 x 16 = 80 marks)

- 21(a) (i) Discuss the factors influencing the ginning operation. What are the various defects that can come in ginning and the causes for it? (8)
- (ii) With the help of a neat sketch explain the working of a knife roller gin. (8)

(OR)

- 21(b) (i) How the ginning performance affects yarn quality? (6)
(ii) With the help of a neat sketch explain the working of a saw gin. Also give the settings for different cotton varieties. (10)

- 22(a) (i) What are the general considerations for opening and cleaning? What is the importance of good opening? What is the influence of material on cleaning process? (8)
(ii) Explain the working of automatic bale opener. (8)

(OR)

- 22(b) (i) Explain the principle of working of automixer with sketch. Mention the principle of blending delay time by this blending machine. (8)
(ii) Describe the mechanism of lap formation. Also discuss about the advantages and disadvantages of chute feed system. (8)

- 23(a) (i) Show the passage of materials between cylinder and flats and explain the carding action. (8)
(ii) What is the effect of flat-cylinder setting in quality of card sliver? How will you remove neps in that region? (8)

(OR)

- 23(b)(i) Describe the rotatory doffing devices in the card and give their advantages. (8)
(ii) Give details of the working mechanism of a licker-in, to ensure the removal of residual trash. What are the developments that took place in this region? (8)

- 24(a) (i) State the types of stop motions & auto-levellers and their importance in draw frame. (8)
(ii) With a neat sketch, showing the material passage, explain the working of modern draw frame. (8)

(OR)

- 24(b) (i) What is drafting wave? How the movement of short fibres in the critical zone is controlled in any drafting system? (8)
(ii) With the help of a neat sketch, explain any one type of modern drafting system used in draw frame. (8)

- 25(a) (i) Give an account of comber timing diagram. Explain the effects of forward and backward feeds on the comber wastes with reasons. (8)
(ii) Discuss the salient features of modern comber. (8)

(OR)

- 25(b) (i) Discuss the influence of precomber draft on the waste percentage in comber. (8)
(ii) Give the sequence of process from card to comber in conventional and modern comber. (8)
