KUMARAGURU
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Register Number: ……..

B.TECH DEGREE EXAMINATIONS: DEC 2014

(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. _____blending results in most intimate blend.
   a) Fiber b) Lap
   c) Web d) Sliver
2. What is the overall cleaning efficiency of blow room line having three machines with individual cleaning efficiency of M?
   a) 3M X 100 b) M^3 X 100
   c) $(1-M)^3$ X 100 d) $[1-(1-M)^3]$ X 100
3. Clothing with negative angles are used in licker-in while processing_____
   a) Bast fibers b) Synthetic fibers
   c) Short staple cotton d) long staple cotton
4. The degree of cleaning achieved by the modern card in the range of ___%
   a) 15-35 b) 40-55
   c) 60-75 d) 80-95
5. What is the CV % of output material, if the input material has a CV of 4 % and the machine adds a CV of 3 %?
   a) 3.5 b) 5
   c) 7 d) 10
6. If 8 slivers each having CV % of 8 are doubled the CV % of the resultant sliver will be
   a) 2.83 b) 6.83
   c) 8 d) 8.83

7. Detachment setting in the comber normally lies in the range of_____mm

a) 5-15 b) 15-25

c) 25-35 d) 35-45

8. The hank of the sliver lap is around _____Ne

a) 0.0001 b) 0.01

c) 0.1 d) 1

9. In a speedframe, spindle top inserts with grooves are used to introduce_____in the roving

a) real twist b) false twist

c) tension d) Further draft

10. In speedframe , break draft are usually selected around _____for cotton

a) 1.05-1.15 b) 2.05-2.15

c) 3.05-3.15 d) 8-12

PART B (10 x 2 = 20 Marks)

11. How to calculate the ginning percentage?
12. What are the factors influences intensity of opening?
13. What is transfer coefficient in carding?
14. State the importance of card clothing.
15. What is actual and mechanical draft?
16. List out the importance of auto levelers in draw frame.
17. What do you mean by forword feed in comber?
18. How much % of noils is extracted in comber?
19. List the role and types of flyer used in speed frame.
20. What is the importance of builder motion in speed frame?

PART C (5 x 14 = 70 Marks)

21. a) What are the objectives of ginning? Explain the construction and working of knife roller ginning machine with sketch.

(OR)

b) (i) Discuss about the principle of chute feed systems. (7)

(ii) Discuss the working principle of mono cylinder with sketch. (7)

22. a) Explain the following working regions in carding:

(i) Pre-opening between feed roller and licker-in (5)

(ii) Carding between main cylinder and flats (5)

(iii) Transfer zone at the doffer (4)

(OR)

b) (i) Explain about the use of autolevellers in carding. (7)

(ii) Calculate the production of carding machines in kgs/hour with following data. (7)

Doffer speed =25 rpm, Weight in grams/meter of card sliver= 4.5Doffer diameter = 686mm, Efficiency =85%,

23. a) Explain the working and salient features of HP Draw frame with suitable sketch.

(OR)

b) (i) Explain about the 3/5 drafting systems in draw frame with sketch. (7)

(ii) Explain the features of integrated draw frame. (7)

24. a) (i) Why comber preparatory processes are necessary? Explain. (7)

(ii) How to assess the performance of comber? Explain (7)

(OR)

b) Explain the principle and working features of the comber machine with suitable sketch.

25. a) What are the tasks of speed frame? Explain the operating regions of speed frame with sketch.

(OR)

b) (i) Calculate the production in Kgs/shift of 8 hrs / simplex machine with the help of following data: (10)

<u>3/3 Drafting System</u>:

Front zone draft = 8.57

Back zone draft = 1.41

Twist Multiplier =1.1

Hank of the feed sliver = 0.12 Ne

Spindle speed =1100 rpm

No. of spindle/machine =120

Efficiency = 89%

(ii) What are bobbin and flyer leading systems in speed frame? (4)

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