

D 801

B.Sc. (Applied Science) DEGREE EXAMINATION, APRIL/MAY 2003.

First Year

Apparel and Fashion Technology

FT 1.3 — YARN MANUFACTURE

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Name any two types of ginning machines with their suitability for different varieties of cotton.
2. What is Bale and Borah?
3. What is the need of mixing at blow room?
4. The blow room line consists of machine M1, M2 and M3 with cleaning efficiency of 25%, 30% and 25% respectively. Find the overall cleaning efficiency of the blow room line.
5. How do the wire point action of a card affect the neps present in the feed material?
6. The cleaning efficiency of blow room and card are 65% and 85% respectively. Find the overall cleaning efficiency.
7. What are the factors affecting the noil % removed by the comber?
8. What are the objectives of sliver lap machine?
9. The spindle speed of ring frame is 16000 rpm. The Twist Multiplier is 4.0. The count of yarn is 40 Ne. Find the production per spindle shift.
10. The number of objectionable faults present in the ring yarn and cone yarn are 30/lakh m and 4/lakh m respectively. Find the clearing efficiency of the yarn clearer.

PART B — (5 × 16 = 80 marks)

11. Explain with neat sketch the working of saw gin.
12. (a) Explain the working of ERM cleaner. What is the advantage of ERM cleaner and mention its position in the blow room line. (12 + 2 + 2)

Or

- (b) What type of machine arrangement in the blow room will be best suitable for processing cotton fibre having trash of 5–7% for producing coarser yarn? Justify the machinery selected and their arrangement for the suitability in processing the above material.
13. (a) Draw the line diagram of a modern HP card with their drive arrangements. Show the direction of wire points, direction of rotation of machine elements and material flow.

Or

- (b) Explain in detail :
- (i) Point to point action. (5)
- (ii) Profile of cylinder wire with specifications. (5)
- (iii) Fibre individualisation and parallisation at card. (6)
14. (a) Draw the sketch of a polar drafting system. What are the advantages of polar drafting system over normal 3 over 3 drafting system? (10 + 6)

Or

- (b) Draw the combing cycle and explain with diagram, the process of removing noil from the lap.

15. (a) Draw the sketch of a ring frame double apron drafting system. Explain in detail, the top arm roller loading arrangement by using (i) spring and (ii) pneumatic pressure. (8 + 8)

Or

- (b) Write short notes on :

- (i) Yarn formation in rotor spinning. (8)
- (ii) Electronic yarn clearer. (8)