

Reg. No. :

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T 3917

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Annual Pattern - First Year

Textile Technology (Fashion Technology)

FT 1X 02 — YARN MANUFACTURE

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL the questions.

PART A — (10 × 2 = 20 marks)

1. Draw the cross sectional and longitudinal view of wool fibre.
2. Write the sequence of machinery used to produce combed cotton yarn ready for knitting.
3. Write the concept of closed loop auto levelling used in the card.
4. The hank of the sliver fed to the draw frame is 0.12 Ne. Number of doubling is 8.0 and draft applied is 7.8. Calculate the sliver hank delivered from the draw frame.
5. What are the objectives of comber preparatory machinery?
6. Compare bobbin lead and flyer lead mechanism of speed frame.
7. What is the function of apron in the roller drafting system of the ring frame?
8. What are the methods available to give drive to the spindles in the ring frame?
9. Name any four types of fancy yarn.
10. What are the advantages of doubled yarn compared to single yarn of same count?

PART B — (5 × 16 = 80 marks)

11. (a) (i) What are the essential properties of cotton for the spinning process? Discuss how they are important? (12)
- (ii) The weight of one metre yarn is 14.8 mg. Express the same in English Count, Tex and Denier. (4)

Or

- (b) (i) Explain the working principle of Mixing Bale Opener. Show the flow of material and direction of rotating elements of the machine. Also indicate the important settings in the machine. (12)
- (ii) What are the objectives of "Condenser" in the blow room line? (4)
12. (a) Discuss in detail the salient features of the modern card. Give details to justify for its high sliver quality and production. (16)

Or

- (b) (i) What are the objectives of "Draw Frame"? (2)
- (ii) What are the objectives of "Auto Levelling" in the draw frame? (2)
- (iii) Explain with neat sketch the working concept of auto leveller in the draw frame. (12)
13. (a) With necessary sketches explain in detail the sequence of operations of "Combing". (16)

Or

- (b) (i) With neat sketch explain the working principle of the speed frame builder mechanism? (12)
- (ii) Calculate the production per spindle per shift of 8 hours (kg) at 100% efficiency using the following data. (4)

Flyer speed : 900 rpm

Roving hank : 1.4 Ne.

Twist Multiplier : 1.1

14. (a) Explain the concept of condensed yarn spinning. Explain the principle of condensation of drafted fibres using aprons. (6 + 10)

Or

- (b) (i) Explain the evolutions of rings and travellers and also state their salient features. (12)
- (ii) Explain with necessary sketches the functions of "Balloon control", "Ring", "Thread Guide", "Separators" and "Roving Guide" in ring frame? (4)
15. (a) Explain the working principle of (i) Airjet spinning and (ii) Twist-less spinning system. (8 + 8)

Or

- (b) Write detailed notes on :
- (i) Friction Spinning (8)
- (ii) Wrap Spinning. (8)
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