

22365

12425

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answer with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any FIVE of the following:** **10**
- a) State the objectives of carding process.
 - b) State the function of mote knives at card.
 - c) State the importance of stripping operation at card.
 - d) State the objectives of draw frame process.
 - e) Define draft at draw frame with formulae.
 - f) State the purpose of combing operation.
 - g) Define forward feed and backward feed at comber.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Differentiate between laps feed and chute feed system.
 - b) Explain various types of card clothing with neat sketch.
 - c) Explain conventional four over four drafting system with neat sketch.
 - d) Calculate the production per shift of eight hours of draw frame which is running at 85% efficiency. Speed of $1\frac{1}{4}$ " diameter front roller is 300 rpm. Weight of the sliver fed is 60 grains/yard. The draft is 6.2 and number of doublings for two deliveries is six.
- 3. Attempt any THREE of the following:** **12**
- a) i) Draw diagram of carding action, stripping action and doffing action.
ii) A carding machine having draft of 106 is fed with a lap of 0.0015 hank. Calculate the hank of sliver delivered if waste extracted is 5%.
 - b) State the salient features of modern carding machine.
 - c) Draw neat labelled sketch showing the passage of material through draw frame machine.
 - d) Explain the effect of the precomb draft on combing performance.
- 4. Attempt any THREE of the following:** **12**
- a) Draw neat labelled sketch of passage of material through carding machine.
 - b) State purpose of cots on drafting roller. Explain the cots buffing process and its importance.
 - c) State the salient features of a modern comber.
 - d) Explain the factors affecting the fractionating efficiency of comber
 - e) List down various faults in draw frame sliver. Explain any two draw frame faults with causes and remedial actions.

5. Attempt any TWO of the following:**12**

- a) Write down the card setting between the following parts of carding machine. Also explain their effect on silver quality.
 - i) Licker-in and cylinder
 - ii) Cylinder and flats
 - iii) Cylinder and doffer.
- b) Explain different types of Auto levellers used in draw frame machine with neat sketch. State importance of auto levellers.
- c) Platt's comber work with following particulars:
 - i) Lap weight = 470 grains/yard
 - ii) Feed/nip = 0.18 inches
 - iii) Nipl/min = 98
 - iv) Noil % = 14
 - v) No. of heads = 6
 - vi) Efficiency = 81%

Find the production per shift of eight hours. If the m/c has English hank meter. Find the number of hanks registered at the end of the shift with machine draft of 50.

6. Attempt any TWO of the following:**12**

- a) Describe the construction and working of lap former machine with neat sketch.
 - b) Draw neat labelled sketch of comber machine. Also explain various elements of comber machine with its function.
 - c) Explain Index wheel timings and setting of comber.
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