

17344

11819

3 Hours / 100 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **20****
- a) What are the objects of carding machine? State its importance in yarn forming process.
 - b) Draw a well labelled diagram to show the passage of material through draw frame machine.
 - c) Write the functions of -
 - (i) Lap roller
 - (ii) Feed roller
 - (iii) Feed plate
 - (iv) Nose of feed plate
 - d) What are the advantages and disadvantages of chute feed system?
 - e) Explain the active pneumatic system for measuring in carding machine.

P.T.O.

- f) Explain the working of open loop auto levelling system in draw frame.
- g) Find the draft and draw frame sliver weight in gms/meter data:
 - (i) Hank of carded sliver - 0.16
 - (ii) No. of slivers offered - 6
 - (iii) Hank of draw frame sliver - 0.18

2. Attempt any FOUR of the following: 16

- a) What are the advantages of autolevellers in carding? Give the principle of short term levelling.
- b) Explain the requirement of drafting arrangement in draw frame.
- c) What are carding segments? Explain the effect of carding segments.
- d) Write in brief about -
 - (i) Bottom roller
 - (ii) Top roller
- e) Explain the importance of metallic card clothing at card.
- f) Write about the modern developments in draw frame.

3. Attempt any FOUR of the following: 16

- a) Calculate the draft change pinion, if hank delivered is 0.125, hank fed is 0.0012 and draft constant is 2800.
- b) With sketch explain any one modern drafting system in draw frame.
- c) What is the object of coiler mechanism? Explain the coiling in cans at high speed in carding.
- d) Explain the conventional feed system and unidirectional feed system in carding.
- e) Write about the integrated monitoring system used in draw frame.
- f) Calculate production per hour of draw frame with two delivery, which is running at 80% efficiency. Speed of front roller is 2000 rpm and diameter is 1.5", weight of sliver fed is 60 grains per yard. Draft is 6.5 and doubling is 6.

- 4. Attempt any TWO of the following: 16**
- a) With neat sketch explain the working of different parts of carding machine.
 - b) Write about correction length and condensing unit of draw frame.
 - c) What are the causes and remedies of various defects of draw frame sliver.
- 5. Attempt any TWO of the following: 16**
- a) Explain in detail -
 - (i) Carding action and
 - (ii) Stripping action
 - b) A carding machine is running with following particulars:
 - (i) Feed roller diameter - 2.5 inches
 - (ii) Feed roller rpm - 30
 - (iii) Main mechanical draft - 105
 - (iv) Hank of lap - 0.00147
 - (v) Tension draft - 1.4
 - (vi) Waste % at card - 4.5%
 - (vii) Efficiency - 85%Find out production of card per shift of 8 hrs in kgs.
 - c) What are the objectives of draw frame? Explain the suction system of drafting arrangement in draw frame.
- 6. Attempt any TWO of the following: 16**
- a) Write down the functions of Lickerin, cylinder, doffer and flats.
 - b) What is the importance of web doffing devices? With neat sketch, explain the working of any modern web doffing device at card.
 - c) Write a descriptive note on “Modern developments in carding”.
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