

# 17344

**21718**

**3 Hours / 100 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 answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.
  - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
  - (7) 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) State the operating principle of carding machine.
  - b) Write the basic concept of chute feed in carding.
  - c) State the functions of flats.
  - d) Give the classification of auto levelling equipment and write principle of any one autoleveller.
  - e) State the objectives of drawframe.
  - f) Explain the sliver coiling in drawframe machine.
  - g) Six slivers of hank 0.14 are doubled at draw frame and draft is 8. Find the hank of sliver delivered.

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- 2. Attempt any FOUR of the following:** **16**
- a) Describe the unidirectional feed system in taker-in region.
  - b) State the function of doffer and crushing rollers.
  - c) State the developments in Licker in zone in modern card.
  - d) Explain the elements of drafting arrangement in draw frame.
  - e) Enlist the names of coiler coiling mechanism and write difference between (any four) coiling mechanism.
  - f) Write any four modern developments in drawframe machine.
- 3. Attempt any FOUR of the following:** **16**
- a) State the need of auxiliary carding devices.
  - b) Give the classification of card clothing and also enlist the important operating parameters of the clothing.
  - c) Describe with diagram active pneumatic measuring system of card.
  - d) List down the various factors which affects the draft in the drafting system.
  - e) State the function of integrated monitoring system and also its structure.
  - f) Calculate the production of draw frame in kgs/8hrs with two deliveries running at 80% efficiency. Diameter of front roller is 1.5" and speed is 2000 rpm. Hank of delivered material 0.13.
- 4. Attempt any TWO of the following:** **16**
- a) Describe with sketch the passage of material through the carding machine.
  - b) (i) Define transfer efficiency of card  
(ii) With sketch explain the working of detaching apparatus in card.
  - c) State the importance of maintenance in clothing of card and state the steps by which life of clothing can be improved.

**5. Attempt any TWO of the following:****16**

- a) Describe the transfer of fibres from taker-in to the main cylinder with sketch.
- b) Draw a well labelled diagram of flock feeder.
- c) A carding machine is running with following particulars:
  - (i) Feed roller dia. = 2.5 inches
  - (ii) Feed roller rpm = 30
  - (iii) Main mechanical draft = 105
  - (iv) Hank of lap = 0.00147
  - (v) Waste % at card = 4.5%
  - (vi) Tension draft = 1.4
  - (vii) Efficiency = 85%

Find the production of card per shift in kgs.

**6. Attempt any TWO of the following:****16**

- a) Draw a well labelled diagram of any one modern drafting system on drawframe and explain the working of the drafting system.
- b) Draw a well labelled diagram of Evener drawframe with open loop control system and closed loop control system.
- c) State any two defects with causes and remedies of drawframe.

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