



17344

15162

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 ten** of the following :

20

- a) Write the objects of draw frame.
- b) Write the diameters of feed roller licker-in, cylinder and doffer.
- c) Write the percentage of different types of hooks in carded sliver.
- d) Write the carding angles of licker in and cylinder wire points.
- e) Write the function of mote knives.
- f) List the impurities removed by carding machine.
- g) Write the functions of stationary flats.
- h) Why polishing of wire point is necessary ?
- i) Define : Draft.
- j) Why cots buffing is necessary ?
- k) Define : auto leveller.
- l) Find the hank of sliver if weight is 52 grains/yard.
- m) What is the need of auto leveller in draw drafte ?

P.T.O.



2. Attempt **any four** of the following :

16

- a) Draw and label passage of material through carding machine.
- b) Write any four difference between lap feed and chute feed system.
- c) Draw and label flock feeder.
- d) Write where point to point and back to back action takes place in carding.
- e) Write advantages of opposite movement of flats in modern carding.
- f) Write any four defects, causes and remedies in draw frame.

3. Attempt **any four** of the following :

16

- a) Write the change places in carding.
- b) Draw and label long term auto-leveller in carding.
- c) Why auto leveller is necessary in carding ? Which type of loop is used ?
- d) Draw and label horse-fall grinder.
- e) What is stripping ? Where stripping action takes place in carding ?
- f) With neat sketch explain Tongue and groove measuring system.

4. Attempt **any four** of the following :

16

- a) Write any four difference between full width and horse-fall grinder.
- b) Write the importance of setting of the following :
 - i) Flat and cylinder
 - ii) Cylinder and doffer.
- c) Write how dust extraction takes place in high performance card.



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Marks

- d) Calculate the production of a carding machine from the following particulars in kgs/shift of 7.5 hours.
- i) Doffer speed – 45 rpm
 - ii) Doffer diameter – 27 inch
 - iii) Hank of sliver – 0.13
 - iv) Efficiency – 85%
 - v) Tension draft – 1.1.
- e) Write any eight modern developments in draw frame.
- f) Calculate the total draft from the following particulars :
- i) Doffer diameter – 27 inch.
 - ii) Doffer speed – 34 rpm
 - iii) Lap roller dia. – 152.4 mm
 - iv) Lap roller speed – 3 rpm
 - v) Doffer to coiler calender tension draft – 1.2.

5. Attempt **any four** of the following :

16

- a) Write the objects of carding.
- b) Draw and label passage of material through draw frame.
- c) Write the factors which affects drafting.
- d) Write any four difference between spring and pneumatic top roller weighting.
- e) With neat sketch explain 4/3 drafting system.
- f) Define :
 - i) Open loop.
 - ii) Closed loop.



6. Attempt **any four** of the following :

- a) Write modern developments in carding.
 - b) Write any four defects causes and remedies in carding.
 - c) Write any four difference between over and under coiling.
 - d) Write the stop motions in draw frame.
 - e) Calculate the production of a draw frame from the following particulars in kgs/shift of 7.5 hrs.
 - i) Front roller rpm – 1170
 - ii) Front roller diameter – $1\frac{1}{2}$ inch
 - iii) Weight of sliver delivered – 55 grains/yd.
 - iv) Efficiency – 87%
 - v) No. of deliveries – 02
 - f) What is roller slip ? Write any four causes of roller slip.
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