17344

21415

3 Hours/100 Marks

Seat No. | | | | | | | | |

***Instructions** : (1) **All** questions are **compulsory**.*
*(2) Answer **each** Section on **same/separate** answer sheet.*
*(3) Answer **each** next main question on **a new** page.*
*(4) Illustrate your answers with **neat** sketches **wherever** necessary.*
*(5) Figures to the **right** indicate **full** marks.*
*(6) **Assume** suitable data, **if** necessary.*
*(7) **Use** of Non-programmable Electronic Pocket Calculator is permissible.*
*(8) 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 tasks of carding machine.
   b) State the wire point density of licker-in and cylinder.
   c) Why carding is necessary ?
   d) Write the carding angles of cylinder and doffer wires.
   e) Why additional carding segments are necessary ?
   f) Write the functions of flats.
   g) Why polishing of wire point is necessary in carding ?
   h) State the objects of drawframe.
   i) State the importance of break draft in draw-frame.
   j) Write the necessary requirements to draft the material in draw-frame.
   k) Write the names of autoleveller measuring systems.
   l) Find the weight/yd of sliver if hank of sliver is 0.13 Hank.
   m) List down various change places on card.
   n) State importance of stop motions on draw frame.
   o) It is desired to make 60 grains/yard sliver from 14 oz/yd lap. What is the actual draft required ? If while processing 3.5% of waste is removed, what is machine draft ?

P.T.O.

MARKS

2. Attempt **any four** of the following : **16**

   a) Draw and label direction of rotation and angle of wire point direction of licker-in, cylinder, doffer and comb roller.

   b) State any four differences between lap feed and chute feed system.

   c) Draw and label flock feeder.

   d) Draw and label CRV unit.

   e) State advantages of opposite movement of flats.

   f) Write the direction and percentage of different hooks present in carded sliver.

3. Attempt **any four** of the following : **16**

   a) Write the differences between short term and long term autoleveller.

   b) Draw and label tongue and groove measuring unit.

   c) Draw and label long term autoleveller.

   d) Define :

      i) Open loop autolevelling

      ii) Closed loop autolevelling.

   e) Draw and label Horse fall grinder.

   f) What is stripping ? Where strippin action takes place ?

4. Attempt **any four** of the following : **16**

   a) Describe the modern developments in carding.

   b) Write any four detects, causes and remedies of a carded sliver.

   c) Write the settings for the following :

      i) Feed plate to licker-in

      ii) Licker-in to cylinder

      iii) Cylinder to Doffer

      iv) Flat to flat comb.

MARKS

d) With neat sketch, explain pneumatic trumpet measuring system.

e) Calculate the production of carding machine in kgs/shift of 8 hours from the following particulars :

i) Doffer speed – 42 rpm

ii) Doffer diameter – 27 inch

iii) Hank of Sliver – 0.12

iv) Efficiency – 88%

v) Tension draft – 1.05.

f) Calculate the production of carding machine in pounds/shift of 7.5 hours from the following particulars :

i) Delivery rate of doffer – 88.04 mt/min

ii) Tension draft – 1.1

iii) Efficiency – 87%

iv) Weight of sliver – 55 grains/yd.

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

a) 6 slivers of 0.16 hank are fed to a draw frame having a draft of 6.5. Calculate the hank of sliver delivered.

b) State the draft and top roller loads in 4/3 drafting system.

c) State the factors which attects drafting.

d) Why cots buffing in necessary ? Write the advantages of cots buffing.

e) With neat sketch explain combined loop-autolevelling.

f) Describe Integrated monitoring system.

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

a) Write any four difference between spring and pneumating weighting system.

b) Describe modern developments in draw frame.

c) Explain any four detects, causes and remedies of draw frame.

d) State the names and functions of stop motions used in drawframe.

MARKS

e) Calculate the production of draw frame from the following particulars in kgs/ shift of 8 hours :

i) Front roller speed – 1060 rpm.

ii) Front roller diameter – $1\frac{1}{2}$ inch.

iii) Weight of sliver delivered – 60 grains/yd.

iv) Efficiency – 89%

v) No. of deliveries – 01.

f) Find the total draft of drawframe from the following particulars :

i) Front roller dia – $1\frac{1}{2}$ inch

ii) Front roller speed – 1200 rpm

iii) Back roller dia – 25.4 mm

iv) Back roller speed – 300 rpm.

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