17344

21314

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory*.

(2) Figures to the right indicate full marks.

(3) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Give reasons for following statements: (any TEN) **20**

a) Actual draft in carding is greater than mechanical draft.

b) Positive rake wire for lickerin are used for dirty fibres.

c) Unidirectional feed at lickerin does not stress fibres.

d) Crushing rolless result in additional cleaning of fibers.

e) Lickerin and cylinder wire points are in stripping position.

f) Metallic clothing increases carding efficiency.

g) Neps increase due to blunt cylinder wire points.

h) Hank (Ne) delivered by card is 0.108 if actual draft in card is 90 and lap is 0.0012 (Ne).

i) Increase in flat speed increases flat waste.

j) Doubling increases uniformity of drawn sliver.

k) Stop motion in creel helps to maintain uniform weight of sliver delivered.

l) Fibres in sliver are parallel and oriented after drawing.

m) Open loop auto leveller control short term irregularity.

n) If a sliver of 24 g/m is drafted 8 times, the weight of sliver reduces to 3 g/m.

Marks

2. Solve any FOUR of the following: **16**

a) Draw lickerin region with lap feed arrangement and label the diagram.

b) Compare advantage of double chute to single chute feed at card.

c) Give the advantages of additional carding segments at lickerin and cylinder regions.

d) Explain control of waste removal at lickerin region.

e) Draw passage of material through draw frame.

f) Explain draft versus drafting force diagramatically.

3. Solve any FOUR of the following: **16**

a) Explain advantages of backward movement of flats with respect to cylinder.

b) Show diagramatically wire points and direction of rotation of cylinder and doffer at their junction.

c) Give wire point specifications for worse and dirty cottons for cylinder and doffer.

d) Draw two types of coiling mechanism with respect to can diameter at draw frame.

e) Enlist the factors that influence frictional field in drafting.

f) Explain role of sliver data installation on draw frame.

4. Solve any FOUR of the following: **16**

a) Explain function of creel on draw frame.

b) Draw and explain control fibre movement in 4/3 roller drafting system of draw frame.

c) Draw and state advantages of pneumatic weighing system on draw frame.

d) Explain principles of Shirley draft distribution system.

e) Find production in kg/8hr/delivery of a draw frame running at 450 m/min with 4.5 g/m of sliver delivery and 85% efficiency.

f) State any two defects in sliver produced at draw frame and measures to control them.

Marks

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

a) Draw passage of material through modern card and label the parts.

b) Give major settings on modern card.

c) Calculate production on card running with following particulars:

i) lot of lap fed = 400 g/m

ii) mechanical draft = 80

iii) waste removed = 5.5%

iv) doffer dia = 70 cm

v) doffer speed = 40 rpm

vi) efficiency = 90%.

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

a) Explain any one auto leveller with sketch.

b) Describe the features of modern draw frame.

c) State the effect of roller diameter, cot softness, fibre orientation and roller settings on performance of fibre drafting.

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