17344

16172

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

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) 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) State two drawbacks of chute feed system to card.

b) Explain function of grid in carding.

c) Explain unidirectional feed to takerin.

d) Explain the function of flats.

e) Draw two types of coiling and name them.

f) Explain the functions of web crush rollers on card.

g) If 15 oz/ud of lap is fed to card and actual draft is 98, calculate the linear density of the sliver delivered.

h) State relationship between actual draft and mechanical draft and define them.

i) State two advantages of full width grinder for sharpening of carding wire points.

j) State four objects of draw frame.

k) State the role of stop motion at creel of draw frames.

Marks

l) List down various auto leveling systems used on drawframe.

m) State advantages of monitoring system in drawframe.

n) State importance of break draft in drawframe.

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

a) Describe chute feed system.

b) State the advantages of stationary cleaning flats on the cylinder.

c) Explain auto leveling measuring device based on pneumatic principle with sketch.

d) State the effect of roller setting on quality of sliver produced.

e) Explain the roller drafting principle with sketch.

f) Six slivers of 4 g/m are fed to drawframe with draft of 6.3. Find the hank of the delivered sliver in Ne.

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

a) Write down settings between various carding machine parts (any four).

b) Explain functions of lickerin, mole knives in carding.

c) Explain doffing process in carding.

d) State the reasons for nep generation at card.

e) Describe developments in feeding and lickerin zone of carding machine.

f) Explain integrated monitoring system on modern draw frame.

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

a) Explain the role of lickerin and cylinder under casing with sketch.

b) Card is delivering 0.124 hank with 28 teeth change pinion. Calculate the new change pinion if the required hank is 0.142.

c) State the advantages of metallic card clothing over flexible wire clothing.

Marks

d) Give the schedule for grinding of flats, cylinder, lickerin and doffer wires on card.

e) List the factors governing on the drafting arrangement on draw frame.

f) Compare open and close loop autolevellers.

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

a) Draw and describe passage of material through card.

b) State modern developments in card.

c) Calculate the production in kg/8hr of carding machine fed with 390 g/m of lap. Actual draft is 94. Doffer diameter is 70 cm. Doffer rpm is 48 and efficiency is 90%.

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

a) Describe passage of material through modern draw frame with help of sketch.

b) Describe the effect of:

(i) Roller eccentricity

(ii) Variation in hardness of top roller cots

(iii) Break draft

(iv) Top roller pressure on sliver quality

c) Find the hanks produced per 8 hours and calculate production in kg/8hr/Draw frame running with following particulars:

(i) Sliver fed = 65 grains/ud

(ii) Break draft = 1.32

(iii) Main draft = 4.65

(iv) Doublings = 6

(v) Front roller diameter = 32 mm

(vi) Front roller rpm = 2000

(vii) Number of deliveries = 2

(viii) Efficiency = 85%