313345

12425

3 Hours / 70 Marks Seat No. | | | | | | | | |

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

(2) Answer each next main Question on a new page.

(3) Illustrate your answer 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.

(8) Use of Steam tables, logarithmic, Mollier's chart is permitted.

Marks

1. Attempt any FIVE of the following: **10**

a) State the objectives of carding machine.

b) Enlist the name of modern lap preparation machines.

c) Calculate the total draft of carding machine, if the hank of sliver is 0.12 and weight of lap feed is 500 gm/mtr.

d) Classify the fibre hooks at card.

e) State the objectives of comber.

f) State the function of auto leveller used at draw frame.

g) Calculate noil % of comber, if weight of noil is 0.89 gm/mtr. and weight of sliver is 3.96 gm/mtr.

P.T.O.

Marks

2. Attempt any THREE of the following: **12**

a) Compare lap feed and chute feed.

b) Explain in detail principle of roller drafting.

c) State the modern developments in lap preparation machine.

d) Discuss the following parts of comber machine with neat sketch:

i) Nipples

ii) Cylinder

iii) Detaching Roller

iv) Top Comb.

3. Attempt any THREE of the following: **12**

a) State any four card sliver defects, their causes and their remedies.

b) Describe with neat sketch draw frame machine.

c) Describe with neat sketch operation of auto leveller to maintain sliver hank variation.

d) Discuss the effect of following settings at comber on combing performance:

i) Detachment setting

ii) Top comb penetration

iii) Feed distance moved per cycle.

4. Attempt any THREE of the following: **12**

a) Explain in detail card clothing.

b) Discuss the following maintenance activities of carding:

i) Wire Grinding

ii) Wire Mounting

c) Describe with neat sketch the 3/3 and 5/4 roller drafting arrangement.

d) State the modern developments in carding.

e) Calculate production of Ribbon lap machine in kg/shift of 8 hrs. at 65% efficiency, if speed of 16" diameter of lap roller is 48 rpm and hank of ribbon lap is 0.0119.

Marks

5. Attempt any TWO of the following: **12**

a) Describe with neat sketch carding machine.

b) Calculate production of comber in kg/shift of 8 hrs with following particulars:

i) Nips/min = 400

ii) Feed/nip = 7.5 mm

iii) Lap weight = 70 gm/mt

iv) No. of heads = 8

v) Efficiency = 92%

vi) Noil extraction % = 17%

c) Describe with neat sketch super lap former.

6. Attempt any TWO of the following: **12**

a) Calculate production of carding machine in kg/shift of 8 hrs. with following particular:

i) Doffer speed = 40 rpm

ii) Doffer diameter = 27"

iii) Weight of sliver = 5 gm/mtr

iv) Tension draft = 1.1

b) Explain with neat sketch sequence of operations in rectilinear comber.

c) Calculate production of draw-frame in kg/shift of 7.5 hrs with following particulars.

i) Front seller speed = 350 rpm

ii) Front seller diameter = 1¼"

iii) Weight of sliver fed = 60 grains/yd.

iv) Total Draft = 6.2

v) No. of doublings = 6

vi) No. of deliveries = 2

vii) Efficiency = 90%