17462

16117

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) Use of Non-programmable Electronic Pocket Calculator is permissible.

Marks

1. Attempt any TEN of the following: **20**

a) Write different types of hooks in percentage of a carded sliver.

b) Why combing is necessary ?

c) Write the objects of Ribbon lap machine.

d) State disadvantages of sliver lap machine.

e) Write the effect of top comb penetration.

f) Write the operation of comber at index No. 19.

g) Why even number of machines are used in between carding and combing.

h) Write the function of detaching rollers.

i) Write the function of flyer.

j) Why aprons are used in speed frame drafting system.

k) What are the objectives of speed frame ?

l) Write the function of separators used in Ring Frame.

Marks

m) Write the function of balloon control rings.

n) Why traveller clearer are used ?

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

a) Why comber lap preparation is necessary ?

b) Draw and label passage of material through super lap machine.

c) Write the causes of head to head noil variation.

d) Write any four difference between unicomb and halflap.

e) With neat sketch explain step gauge setting.

f) Explain influence of lap preparation on combing ?

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

a) Find the production in kgs/shift of 8 hours of a Ribbon lap machine if lap roller of 12 inch diameter runs at 60 rpm to produce a lap of 650 grains/yard with 88% efficiency.

b) Calculate the production of a comber in pounds/shift from the following data:-

(i) Nips/min - 260

(ii) Feed/Nip - 0.23 inch.

(iii) Weight of lap - 720 grains/yard

c) Write the effect of pre-comb draft on noil%

d) Draw and label building mechanism of a speed frame.

e) Draw, label and write function of a flyer.

f) Write the modern features of speed frame.

Marks

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

a) Write the difference between flyer leading and bobbin leading.

b) Draw and label passage of material through speed frame.

c) Write the change places in speed frame.

d) How sliver break stop motion and Rove break stop motion place in modern speed frame.

e) Calculate the production of a speed frame in pounds / hour of 120 spindles from the following particulars :-

(i) Spindle speed - 1000 rpm

(ii) Twist / metre - 63

(iii) Efficiency - 88%

(iv) Hank of rove - 1.2

f) Calculate the production of a speed frame in gms/spindle/shift of 7.5 hours from the following data :-

(i) Hank of rove - 1.3

(ii) Twist multiplier - 1.4

(iii) Efficiency - 87%

(iv) Spindle speed - 950 r.p.m.

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

a) Explain imparting of twist in speed frame.

b) Draw and label passage of material through Ring frame.

c) Draw different types of travellers and write the functions of the traveller.

d) Explain drafting arrangement on ring frame with neat sketch.

e) Draw and label building mechanism of a Ring frame.

f) Write the causes of end breakages in Ring frame.

Marks

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

a) Calculate the production of Ring frame in gms / spindle / hour from the following particulars :

(i) Spindle speed - 17500 rpm

(ii) Twist multiplier - 4.2

(iii) Count spun - 24^s Ne

(iv) Efficiency - 92%

b) Draw and label any four types of Rings.

c) Draw, label and write function of plug type spindle.

d) Write the importance of variable drive.

e) Write any two yarn faults and its causes.

f) Find the production of a ringframe in pounds / shift of 7.5 hours from the following particulars:-

(i) Spindle Speed - 18500 r.p.m.

(ii) Twist multiplier - 4.1

(iii) Weight of yarn - 0.277 grains/yard

(iv) Efficiency - 92%

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