314362

12526

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

Marks

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

a) State the objectives of speed frame.

b) State the importance of break draft in speed frame.

c) State the functions of ring on ring frame m/c.

d) Give the detailed classification of traveller.

e) State the function of ballon control ring (BCR) on ring frame.

f) State the importance of traversing of lappet guide.

g) Enlist the various yarn defects generated in Ring frame.

P.T.O.

Marks

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

a) Explain the passage of yarn through speed frame machine.

b) State the principles of bobbin leading and flyer leading.

c) Describe the principle of twisting on ring frame m/c with diagram.

d) Explain various types of rings on ring frame m/c with neat sketch.

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

a) Justify the following statement with suitable reasons.

"The roving is a necessary evil."

b) Draw schematic figure of flyer and label its parts and also write the functions of each part.

c) State the function of traveller and also explain the concept of traveller number.

d) Calculate the delivery speed of ring frame in mtr/min for spinning the yarn at 25 TPI and spindle speed is 20,000 rpm.

e) Write the causes and remedies for following defects :–

i) Slubs

ii) Crackers

iii) Neps

iv) Hariness.

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

a) Draw schematic diagram of conventional four over four over drafting system and label their names.

b) Calculate the TPI of the roving, if spindle speed is 822 RPM and front roller speed is = 77 rpm, circumference of front roller = 8.25".

c) State the features of modern speed frame machine.

Marks

d) State the concept of draft constant, break draft, main draft in Ring Frame.

e) Draw the schematic diagram of Ring frame cop build and show following element cop heel, body shoulder heel, height of package.

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

a) Describe the building mechanism with neat sketch on speed frame machine.

b) Describe the passage of yarn through the ring frame machine with schematic figure.

c) List down various fancy yarns. Explain the production of any fancy yarn unit neat sketch.

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

a) Find the production in lbs/shift of speed frame m/c. If roving hank is 1.5 hank, efficiency = 85%, spindle speed = 1200 rpm, No. of spindle = 120.

b) Draw the schematic figure of 3 over three double apron roller drafting system used in Ring frame and state the function of drafting system.

c) In a Ring frame 40 Ne carded yarn is to be spun, with spindle speed of 16,000 rpm and 504 working spindle. Find the production in lbs/shift. (Use following data) :–

i) efficiency = 96.1

ii) T. multiplier = 4.2