22461

21222

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

15 minutes extra for each hour

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.

(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 objectives of Roving frame.

b) Draw diagram of flyer and label the parts.

c) State importance of silver stop motions on roving frame.

d) State objectives of ring-frame.

e) Explain winding coils and binding coils. State importance of ratio of winding coils to binding coils.

f) State function of cone drums on speed frame.

g) List down various objectives of building mechanism on speed frame.

Marks

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

a) Explain top arm drafting system on speed frame with help of a neat sketch.

b) Calculate the production of a speed frame operating with following particulars.

i) Spindle speed - 1200 rpm

ii) Draft - 10

iii) Hank of silver fed - 0.12

iv) Twist multiplier - 1.2

v) Machine efficiency - 82%

vi) Number of spindles - 120

c) Compare in detail bobbin leading principle and flyer leading principle of winding of speed frame.

d) Explain passage of material on Ring frame with the help of a neat sketch.

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

a) Describe passage of cotton on speed frame machine with the help of a neat diagram.

b) Explain with a neat sketch inspection process of blower condition on speed frame.

c) List down various change places on roving frame. Explain importance of each of them when hank of roving delivered is changed from 1.0 Ne to 2.0 Ne.

d) Explain how twisting takes place on ringframe with the help of a diagram.

e) List down various package faults of roving bobbine. State causes and remedies of any two.

Marks

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

a) Classify different types of flyers used on speed frames. State advantages of each of them.

b) Elaborate the concept of compact spinning with the help of a diagram.

c) Classify rings of ringframe into different catagories. Draw diagrams of the same.

d) State function of traveller. Classify travellers into different catagories. With the help of diagrams explain different wire profile used.

e) Explain following specifications of traveller in detail.

i) Material of traveller

ii) Mass of traveller

iii) Traveller number

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

a) Describe the working of building mechanism of ring frame with the help of a neat diagram.

b) State limitations of manual doffing on Ringframe. Elaborate advantages of auto doffing. Explain in detail auto doffing with the help of a neat diagram.

c) Explain various features of modern ringframe.

Marks

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

a) A mill produces 500 kg. of 30^s Ne, 200 kg of 60^s Ne and 800 kg of 100^s Ne. Calculate the average count produced by the mill.

b) Calculate the time in hours required to exaust 2 kg of roving bobbine at ring frame working with following particulars.

i) Spindle speed - 16000 rpm

ii) Count spun - 30^s Ne

iii) Twist multiplier - 3.8

iv) Efficiency - 90%

c) Explain different types of spindle drives used on ring frame. Elaborate their relative merits and demerits. Which type of spindle drive would you suggest for modern ring frame. Justify your answer.