

314362

24225

3 Hours / 70 Marks

Seat No.

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- 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.

Marks

1. Attempt any FIVE of the following :

10

- (a) Explain the function of condensers in speed frame.
- (b) List the different change places in speed frame.
- (c) Explain the importance of break draf in speed frame.
- (d) State the importance of Balloon control rings in ring frame.
- (e) Suggest the settings for traveller to traveller clearer.
- (f) List the various types of creels used in Ring spinning.
- (g) Calculate front roller delivery speed in ring frame if spindle speed is 20000 rpm and twist per inches are 22.



2. Attempt any THREE of the following : 12

- (a) Explain the objectives of roving frame as a necessary evil.
- (b) Compare flyer leading and bobbin leading winding in roving frame.
- (c) Explain the objects of ring frame process.
- (d) State the causes and remedies for end breaks in ring frame.

3. Attempt any THREE of the following : 12

- (a) Explain the lifter motion in speed frame building mechanism.
- (b) Explain the function of ring and traveller in ring frame.
- (c) Explain yarn manufacturing with traditional charkha method.
- (d) Suggest the causes and remedies for slubs and crackers faults.

4. Attempt any THREE of the following : 12

- (a) Explain objectives of speed frame.
- (b) Explain the construction of flyer with neat sketch.
- (c) Explain the construction of any two types of rings and travellers used in ring frame.
- (d) Calculate the time required to exhaust 3.5 kgs of roving bobbin at ring frame in hours from following particulars :

Spindle speed = 18000 rpm,

Yarn count = 40 Ne,

Twist multiplier = 3.6,

Efficiency = 92%

- (e) Explain advantages of compact ring spinning.

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

- (a) Explain the concept of block creeling and limitations in automation at speed frame.
- (b) Calculate the production of speed frame in kgs/frame per shift of 8 hours from the following data :

Spindle speed = 900 rpm,

Twist multiplier = 1.2,

Roving Hank = 1.2,

Efficiency = 85%

Number of spindles per frame = 120

- (c) Explain various monitoring systems at ring frame.

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

- (a) Calculate the time required to exhaust 25 kgs of sliver on speed frame from sliver can with following particulars :

Spindle speed = 1000 rpm,

Twist per Inch = 1.25,

Efficiency = 90%

Sliver Hank = 0.12

- (b) Explain the passage of material through the ring frame with neat labelled diagram.
- (c) Calculate production of ring frame in kgs per frame per shift of 8 hours from following particulars :

Spindle speed = 22000 rpm,

Twist multiplier = 4.2,

Yarn Count = 30 Ne,

Efficiency = 90%

Number of spindles per frame = 1800
