

22461

21819

3 Hours / 70 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (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) Draw the end package of roving frame.
 - b) State the function of apron in roller drafting on speed frame machine.
 - c) Give two functions of silver condensers used in drafting system on speed frame.
 - d) List the names of change places used in roving frame.
 - e) Define break draft and state its importance.
 - f) State the functions of lappet.
 - g) List the different types of bobbin build in ring frame.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Draw sketch of Top arm drafting giving the roller dimensions in mm, loads on top roller in da N, roller settings in mm in roving frame.
 - b) Roving bobbin building is a major challenge in speed frame machine. What is the role of cone drums, bobbin rail drive in achieving good build?
 - c) Describe four change places on roving frame when hank of roving is changed from 1.2 Ne to 2.2 Ne, giving reasons for the same.
 - d) Draw passage of material through ring frame and label the parts.
- 3. Attempt any THREE of the following:** **12**
- a) Classify different types of flyers on speed frame. State one advantages of each types of flyer.
 - b) Describe with neat sketch electronic building mechanism used in roving frame.
 - c) Calculate production / Spindle / 8 hr, if spindle speed is 1100 rpm, twist multiplier is 1.2, Hank of roving delivered is 1.2 Ne and machine efficiency is 85%.
 - d) Describe cop building mechanism on ring frame with help of sketch.
- 4. Attempt any THREE of the following:** **12**
- a) Describe, why speed frame is called as 'Necessary Evil'. Write two limitations of speed frame machine.
 - b) Suggest any two design concept in the structure of the drafting arrangement in ring frame.
 - c) Enlist the types of rings and draw sketch of any two rings.
 - d) State the function of traveller and wire profile of traveller on yarn characteristics.
 - e) State the necessity of travellers clearer in ring frame.

- 5. Attempt any TWO of the following:** **12**
- a) Describe any three causes of end breaks in ring frame and also remedies to avoid it.
 - b) Explain advantages of auto doffing in ring frame as compared to manual and doffing.
 - c) State the features of modern ring frame.
- 6. Attempt any TWO of the following:** **12**
- a) A mill produces 500 kg of 30^s Ne, 1200 kg of 34^s Ne and 800 kg of 100^s Ne. Calculate average count produced by the mill.
 - b) Calculate time in hours to exhaust 2.2 kg roving bobbin at ring frame working with following particulars:
 - (i) Spindle speed = 18,500
 - (ii) Count spun = 40^s Ne.
 - (iii) Twist multiplier = 4.1
 - (iv) Efficiency = 91%.
 - c) Suggest the type of spindle drive used for high speed modern ring frame and explain its working.
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