

17462

16172

3 Hours / 100 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. Answer any TEN of the following:

20

- a) Write the names of hooks in carded silver.
- b) Why combing is necessary?
- c) State advantages and disadvantages of super lap machine.
- d) Write the functions of detaching rollers.
- e) Write the functions of top comb.
- f) What do you mean by noil? Explain.
- g) Write the operation of comber at Index No. 27
- h) Enlist various comber defects.
- i) Write the functions of aprons.
- j) Why spacers are necessary in speed frame drafting?
- k) Write the range of twist and hank in roving.

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- l) Write the function of separators in ring frame.
- m) Write the function of balloon control rings.
- n) Why are traveller clearers used?

2. Answer any FOUR of the following: 16

- a) Why comber lap preparation is necessary?
- b) Draw and label passage of material through sliver lap.
- c) Write the factors affecting on comber noil.
- d) Write any four difference between unicombed and halflap.
- e) With neat sketch explain distance gauge setting.
- f) Draw and label passage of material through a comber.

3. Answer any FOUR of the following: 16

- a) Find the production in kgs/shift of 7.5 hours of a sliver lap machine when lap roller of 12 inch diameter runs at 55 rpm to produce a lap of 410 grains/ud with 82% efficiency.
- b) Calculate the production of a comber in kgs/shift with following particulars:
 - (i) Nips/min - 210
 - (ii) Feed/Nip - 0.23 inch
 - (iii) Weight of lap fed - 760 grains/yard
 - (iv) Efficiency - 87%
 - (v) No of heads - 8
- c) Draw and label passage of material through speed frame.
- d) Draw, label and write function of a flyer.
- e) Explain building mechanism of speed frame.
- f) Write any four difference between flyer leading and bobbin leading.

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

- a) Write the effect of pre-comb draft on noil %.
- b) Write the modern developments in speed frame.
- c) Draw and label speed frame building mechanism.
- d) Write the change places in speed frame.
- e) Explain sliver stop motion and roving stop motion takes place in speed frame.
- f) Calculate the production of a speed frame in gms/spindle/shift of 7.5 hrs from the following particulars:
 - (i) Hank of rove - 0.9
 - (ii) Twist multiplier - 1.5
 - (iii) Efficiency - 87%
 - (iv) Spindle speed - 750

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

- a) Calculate the production of a speed frame in kgs/shift of 8 hrs from the following particulars:
 - (i) Spindles/Frame - 120
 - (ii) Spindle speed - 950 rpm
 - (iii) Twist/metre - 64
 - (iv) Efficiency - 88%
 - (v) Hank of rove - 1.3
- b) Draw and label passage of material through ring frame.
- c) Draw and label different types of rings used in ring frame.
- d) Explain function of travellers. Also explain different types of travellers with neat sketch.
- e) Write the modern developments in ring frame.
- f) Write the causes of end breakages in ring spinning.

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

- a) Calculate the production of 1008 spindle ring frame in kgs/shift of 7.5 hours from the following data:
- (i) Spindle speed - 17000
 - (ii) Twist multiplier - 4.1
 - (iii) Count spun - 20^s Ne
 - (iv) Efficiency - 93%
- b) Draw and label ring frame spindle tape drive.
- c) Write the importance of variable drive.
- d) Explain building the base of ring bobbin with neat sketch.
- e) Draw and label top arm cradle and write function of the cradle.
- f) Find the production of ring frame in pounds/shift of 8 hrs from the following data:
- (i) Spindle speed - 18000 rpm
 - (ii) T.M. - 4.2
 - (iii) Weight of 250 inch yarn - 0.187 gms
 - (iv) Efficiency - 92%
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