

17690

21819

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. Attempt any FIVE :

20

- (a) State cost structure of a Spinning Mill.
- (b) Write the norms for waste and yarn realisation of 40^s carded and 60^s combed yarn.
- (c) What is FQI and CQI ? State their formulae and importance.
- (d) Explain how cleaning efficiency of a blow room machine is ascertained.
- (e) State the norms for waste collected at blow room and card. Also give norms for cleaning efficiency for different value of trash (two or three values of trash %).
- (f) Explain the concept of fractionating efficiency of comber.

- (g) Describe the principle of roller drafting.
- (h) State any two faults in roving package. State causes and remedies of the same.

2. Attempt any TWO : 16

- (a) Explain in detail the approach of process control in spinning department.
- (b) State the importance, estimation and control of yarn realisation.
- (c) Describe the control of mixing quality through fibre characteristics.

3. Attempt any TWO : 16

- (a) Describe various causes of lap irregularity at blow room. State how the lap regularity is controlled.
- (b) State cause of nep formation. Describe remedies for nep generation. How measurement of nep is done ?
- (c) Describe the procedure for ascertaining optimum level of comber waste.

4. Attempt any TWO : 16

- (a)
 - (i) Explain the methods of controlling stretch at speed frame.
 - (ii) Explain the concept of linear programming. How it is useful in controlling mixing quality ?
- (b) List down broad areas of process control in spinning. Identify key variables for each broad area and explain how control is exercised in each broad area.
- (c) Describe measures to be taken to control (i) within bobbin count variation and (ii) between bobbin count variation.

5. Attempt any TWO :**16**

- (a) (i) Describe the method of assessing performance of blow room.
- (ii) Give norms for card wastes. Explain in brief how cleaning at card is optimised.
- (b) Describe in detail causes and remedies of end breaks at ring frame. Discuss methodology to control end breaks.
- (c) Describe the method of controlling quality of splice. List down various package faults. Give causes and remedies of any two.

6. Attempt any TWO :**16**

- (a) (i) Describe the scope and approach to process control in winding.
 - (ii) List down various factors affecting yarn strength. How yarn strength variations can be controlled ?
 - (b) Write classification chart of a Classimat-II yarn faults.
 - (c) Give definition of various indices of productivity used in spinning mill. Describe in detail various measures to be taken to improve productivity in a spinning mill.
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