17690

16172

3 Hours / 100 Marks Seat No. | | | | | | | | |

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) Draw flow chart for role and scope of process control in spinning.

(b) Describe the importance of estimation and control of yarn realisation.

(c) Give expression for FQI and CQI and elaborate their importance.

(d) What are neps ? State the causes and remedies of nep generation.

(e) Elaborate the concept of fractionating efficiency of comber.

(f) List down various measures to be considered for controlling sliver unevenness at Draw frame.

(g) List down various factors affecting yarn strength.

(h) Give norms for waste and cleaning efficiency at blow-room for different level (%) of trash.

2. Attempt any TWO : **16**

(a) List down broad areas of process control in spinning. What are key variables of process control ? List down key variable for various broad areas. "The key variable should be meaningful, measurable and controllable – Explain.

(b) Give the details of records to be kept to account for yarn realisation in blow room and card.

(c) Elaborate the graphical method for determination of minimum cost mixing.

3. Attempt any TWO : **16**

(a) Elaborate the procedure for determination of trash content and cleaning efficiency at Blow room.

(b) (i) Explain procedure for nep measurement by template and Nep tester (AFIS).

(ii) Elaborate the concept of transfer efficiency at card.

(c) Describe the procedure for controlling waste and sliver regularity at comber.

4. Attempt any TWO : **16**

(a) List down various defects in roving packages and give remedies for the same.

(b) Describe causes of end breaks in ring spinning. List down various remedies of their removal.

(c) Elaborate scope and approach to process control in winding.

5. Attempt any TWO : **16**

(a) Describe various methods to improve productivity in spinning department.

(b) List down various factors to be considered while collecting and interpreting data for process control.

(c) (i) State the norms for cotton mixing for composite mills for following count groups : (any two)

(1) $10^s – 12^s$

(2) $28 – 34^s$

(3) $50 – 60^s$

(ii) State norms for waste % collected at different region of card for

(1) Flexible fillet

(2) Metallic fillet

6. Attempt any TWO : **16**

(a) Elaborate the effect of relative humidity and temperature on machine performance and process waste at card.

(b) (i) Explain various causes and remedies of within bobbin count variation.

(ii) List down various factors affecting yarn strength.

(c) (i) Explain the procedure for optimising winding package quality with respect to all package faults.

(ii) Explain Classimate-II classification of faults.

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