11920

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)   List down broad areas of process control in spinning. Elaborate upon the key variables to be used for exercising control on these broad areas.

(b)   Define yarn realisation. State its importance. List down the types of wastes in which yarn realisation depends.

(c)   Give formula for cleaning efficiency of blow-room. Give norms for cleaning efficiency of blow-room for 5%, 8% and 12% trash in mixing.

(d)   List down various lap preparation methods adopted for production of comber lap. Compare these methods with respect to

(i)   Direction of hooks

(ii)   Draft (Pre-comb draft)

(iii)   Doubling

    (e)   List down defects in roving package. Elaborate remedies to avoid the same.

    (f)   State reasons for stretch at speed frame. Explain the remedies for it.

    (g)   List down various factors affecting yarn strength.

    (h)   List down various measures to be taken to improve productivity in spinning.

2.   Attempt any TWO :   **16**

    (a)   Elaborate the role and scope of process control in spinning with the help of a chart.

    (b)   Explain in detail the Procedure adopted to give allowance to the hank-meter reading with hank-meter allowance formula.

    (c)   State the importance of controlling mixing quality. Describe the method for controlling mixing quality and cost.

3.   Attempt any TWO :   **16**

    (a)   Give expression for FQ1 and CQ1 and state its importance.

    (b)   (i)   Explain the methods of establishing norms and standards for key variables.

            (ii)   Explain the methodology of taking corrective action if a particular aspect of performance or quality is unacceptable.

    (c)   Describe the process of ascertaining cleaning efficiency of blowroom in detail.

4. **Attempt any TWO :** 16

    (a)   (i)   State the importance of controlling lap regularity and quality. Explain the methods adopted for the same.

           (ii)   Give norms for cleaning efficiency and waste collected at blowroom and card for 5%, 8% and 12% trash cotton.

    (b)   State the causes and remedies of nep generation at card.

    (c)   Elaborate principle of roller drafting. Explain the measures to be taken to control sliver regularity at draw-frame.

5. **Attempt any TWO :** 16

    (a)   Describe the concept of transfer efficiency at card. Explain the methods of nep measurement by template and nep tester (AFIS).

    (b)   Elaborate the concept of fractionating efficiency at comber. List down the measures to be taken to control comber waste and sliver regularity.

    (c)   Explain the steps to control yarn evenness imperfections and periodic irregularity at ring spinning.

6. **Attempt any TWO :** 16

    (a)   Explain the measures to be taken to control within bobbin and between bobbin count variation at ring spinning.

    (b)   Describe in detail how quality of winding can be optimised.

    (c)   (i)   Draw classimate II and explain classification of faults.

           (ii)   Explain with help of a diagram how electronic yarn clearer works.

_____