22247

11920

3 Hours / 70 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 : **10**

(a) Define 'numerical sample' and 'biased sample'.

(b) Define 'Moisture Regain' and Moisture content. Give expression for them.

(c) Define 'Staple length'.

(d) Describe what you understand by the term 2.5% span length.

(e) Give expression for uniformity ratio.

(f) Define maturity ratio. Give expression for the same.

(g) Define nep.

2. Attempt any THREE : **12**

(a) Explain Zoning technique for raw cotton in detail.

(b) Explain the measurement of relative humidity from Wet and dry bulb hygrometer.

(c) Explain in detail technical significance of fibre length in yarn manufacturing.

(d) Explain technical significance of fibre fineness in yarn manufacturing.

(e) Describe various factors affecting maturity of cotton fibre.

3. Attempt any THREE : **12**

(a) List down the factors governing the sampling method.

(b) Explain the method of measurement of moisture content and moisture regain by electrical resistance.

(c) Explain with help of a diagram how effective length, staple length and % short fibres can be found out from comb sorter diagram.

(d) Explain various measures of fibre fineness and differentiate between them.

(e) Describe technical significance of cotton fibre maturity in yarn manufacturing as well as wet processing.

4. Attempt any TWO : **12**

(a) Explain in detail identification of fibre with the help of a microscope.

(b) Describe the method of fibre length determination by digital fibrograph.

(c) Explain measurement of fibre fineness by Gravimetric method.

(d) Explain measurement of fibre maturity by caustic soda method and also state factors affecting on measurement.

5. Attempt any TWO : **12**

(a) Explain in detail measurement of fibre length by comb sorter.

(b) Explain the method of measurement of fibre fineness with help of microscope.

(c) Explain the method of measurement of fibre neps with template method.

6. Attempt any TWO : **12**

(a) Explain air-flow principle for measurement of fibre fineness. Also explain the measurement of fibre fineness using any air-flow principle based instrument.

(b) Describe the measurement of trash % using trash analyser with its disadvantages.

(c) (i) Explain measurement of maturity by differential dyeing.

(ii) Explain the significance of cotton grading.
