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24225

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 of the following : **10**

a) Define sample.

b) List the sampling methods used for sample selection from sliver and roving.

c) Define upper quartile length.

d) Calculate uniformity ratio if 50% span length of cotton fiber is 24 mm and 2.5% span length is 36 mm.

e) Define maturity.

f) List types of neps in cotton.

g) List the points considered for American cotton grading.

Marks

2. Attempt any THREE of the following : **12**

a) Explain Load-Elongation curve.

b) Explain Hand stapling method.

c) Explain effect of moisture on viscose fiber properties.

d) Explain any two factors governing to sampling.

3. Attempt any THREE of the following : **12**

a) Explain technical significance of trash content in cotton.

b) Explain the effect of fiber fineness on yarn strength.

c) Give standard moisture regain values for cotton, wool, silk and nylon fiber.

d) Describe the procedure to select cotton fiber sample from cotton carded sliver by squaring method.

4. Attempt any THREE of the following : **12**

a) Explain sample preparation for single fiber strength measurement.

b) Describe the procedure for measurement of bundle fiber strength measurement by High Volume instrument.

c) Calculate cotton fiber fineness in micronaire for a bundle of 1000 fiber weighs 1240 micrograms having fiber length of 1 cm each.

d) Explain the measurement of relative humidity percentage by using hygrometer.

e) Suggest the fiber identification method to identify viscose and cotton fiber with justification.

Marks

5. Attempt any TWO of the following : **12**

a) Calculate maturity coefficient for the cotton fiber from following data,

Mature Fiber = 490,

Half Mature Fiber = 240,

Immature Fiber = 170

b) Calculate moisture regain and content for the cotton yarn package of 2.20 kgs whose oven dry weight is 2.05 kgs.

c) Describe procedure for analysis of comb sorter diagram.

6. Attempt any TWO of the following : **12**

a) Describe the procedure for measurement of fiber maturity by caustic soda method.

b) Analyse the triangular comb sorter diagram for various fiber length parameters having 32 mm of height (OA) and base-length of 150 mm (OB)

c) Calculate the trash content and lint content in percentage for the cotton having 20 grams of trash and 6 grams of invisible loss after processing 260 grams of raw cotton on trash analyser.

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