313344

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 answer 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 <u>FIVE</u> of the following:**   **10**

a) Define woolen count.

b) Define 'Z' twist with suitable sketch.

c) Define the term 'fabric thickness'.

d) Define the term 'abrasion'.

e) Define the term 'air-resistance'.

f) Calculate the single yarn strength in terms of tenacity (gm/tex) if breaking strength of 30 tex yarn is 275 gmf.

g) Calculate count strength product for 40 Ne p/c blended yarn having 80 lbs of lea strength.

Marks

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

a) Explain the ratings for assessment of water repellency by spray test.

b) Give the ratings for pilling resistance assessment of fabric.

c) Explain the method for measurement of fabric width.

d) Compare metric yarn number with denier yarn number.

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

a) Compare constant rate of loading with constant rate of extension principle.

b) Calculate the drape coefficient for cotton dhoti from following particulars,

Draped pattern paper weight (w) = 2.63 grams.

Paper weight (w) = 0.012 grams/sq. cm.

Specimen Area (As) = 491 square cm.

Supporting disc Area (Asd) = 123 square m.

c) List the end points for assessment of abrasion resistance of the fabric.

d) Calculate cloth cover factor from the following parameters.

EPI = 120, PPI = 60

Warp Count = 32

Weft Count = 32.

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

a) Describe the procedure for measurement of bursting strength for parachute fabric with suitable diagram.

b) Explain strain gauge principle.

c) Calculate the percentage loss in thickness for denim fabric whose 0.55 mm thickness becomes 0.52 mm after 300 numbers of multidirection abrasion cycles against rock material.

d) Describe the procedure for measurement of amount of twist in single yarn with suitable diagram.

e) Describe the procedure for measurement of crease recovery angle with suitable diagram.

Marks

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

a) Explain random and periodic variations.

b) Calculate fabric weight in grams per square meter from following data,

EPI = 120, PPI = 60

Warp Count = 32

Weft Count = 32

Warp Crimp = 8%

Weft Crimp = 7%.

c) Describe procedure for measurement of count strength procedure for cotton yarn.

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

a) Convert six Tex into English and metric count.

b) Calculate bending modulus of the fabric from following data,

Bending length (c) = 2.34 cm.

Fabric weight (w) =120 mg / sqare cm.

Fabric Thickness (g) = 0.038 cm.

c) Describe procedure for measurement of tensile strength for laminated fabric by cut-strip method.

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