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 of the following :**   **10**

(a)   Explain the concept of English (British) count with the help of an example.

(b)   Define CSP. State its importance.

(c)   Elaborate T.I.V. and its usefulness.

(d)   A cotton fabric of 1.4 grams becomes 1.32 grams after 200 cycles on abrasion tester. Calculate the percentage weight loss.

(e)   Explain the term elastic recovery with the help of an example.

(f)   Define 'Mass stress'.

(g)   Define the term 'Water proof'.

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

(a) A cone of 60^s Ne, weights 1.5 kg. Find out the length of yarn it contains.

(b) Explain method to test shrinkage of fabric. State importance of this test procedure.

(c) State the importance of measurement of serviceability of fabric. State the parameters checked and equipments used for the same.

(d) Elaborate the test procedure to test water repellency of fabric with the help of a neat diagram.

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

(a) With the help of a neat sketch, elaborate the method to test single thread strength of a fabric.

(b) Explain the test procedure to ascertain the fabric thickness.

(c) Explain the formation of pill. Enlist factors responsible for pill formation.

(d) Calculate drape co-efficient of a twill fabric tested on drape meter using following data :

(i) Draped pattern paper weight – 3.0 gram

(ii) Ammonia paper weight – 0.015 grams/cm^2

(iii) Sample size diameter – 10"

(iv) Supporting disc diameter – 5"

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

(a) Explain fabric sampling method with the help of a sketch.

(b) Elaborate various factors affecting air permeability of a fabric.

(c) Explain importance of twist in a yarn. Elaborate effect of twist on tensile strength of yarn (both spun and filament yarn) with the help of a neat graph.

(d) Explain the method to measure twist in yarn by twist contraction principle.

(e) Explain the method of measurement of pilling resistance by ICI pill box tester.

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

   (a)   Explain different types of yarn variations. Elaborate expression used for yarn unevenness. Explain its measurement procedure. State its effect on yarn and fabric properties.

   (b)   Explain the method of measurement of tensile strength of a fabric with the help of a neat diagram.

   (c)   Explain the method of measurement of crease recovery of a fabric with the help of a neat diagram.

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

   (a)   Calculate the cover factor of a fabric from following particulars :

      (i)   Ends/inch = 84

      (ii)   Picks/inch = 72

      (iii) Warp count = 30^s Ne

      (iv)   Weft count = 30^s Ne

   (b)   Calculate Bending modulus of denim fabric from following data :

      (i)   Fabric overhanging length – 4.2 cm

      (ii)   Fabric weight – 72 mg/cm^2

      (iii) Fabric thickness – 0.03 cm

   (c)   Elaborate method of measurement of tearing strength of a fabric with the help of a neat diagram.

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