16117

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. **Answer any TEN :**   **2 × 10 = 20**

(a) Define twist in yarn. Also state direction of twist.

(b) The yarn of polyester filament weighing 50 grams in 6000 metres length. Calculate 'Denier' of the yarn.

(c) Define Tex count with formulae.

(d) State the expressions used to measure unevenness.

(e) State the principle used to measure thickness of fabric.

(f) Define wear and abrasion.

(g) List any two methods of measuring threads / unit length i.e. E.P.I. & P.P.I.

(h) Define shower proof fabrics.

(i) Define mass stress.

(j) State principle of tearing strength tester.

(k) Define load ; tenacity.

(l) State any two advantages of CSP over single thread strength.

(m) List methods of measuring twist in yarn.

(n) State sample size for fabric tensile strength (Ravelled strip method)

2. **Answer any FOUR :** **4 × 4 = 16**

(a) Describe method of measuring yarn count in fabric form.

(b) Describe random variation in evenness testing.

(c) Define terms V %, C.V % & imperfections.

(d) What are effects of unevenness on yarn and fabric properties ?

(e) Define fabric width. Describe method of measuring fabric width.

(f) Define cover factor. State only formulae for warp, weft and cloth cover factor.

3. **Answer any FOUR :** **4 × 4 = 16**

(a) Describe method of measuring twist in single yarn by twist contraction principle.

(b) What are the effects of twist on fabric properties ?

(c) Describe method of measuring crimp % in warp and weft.

(d) Draw neat sketch of fabric sampling method.

(e) Define crimp % and crease recovery angle.

(f) Describe the methods of measuring threads per unit length in fabric.

4. **Answer any TWO :** **8 × 2 = 16**

    (a) Describe factors responsible for pilling of fabric.

    (b) Describe fabric tearing strength tester.

    (c) Define drape. Describe method of measuring drape by drape metre.

5. **Answer any FOUR :** **4 × 4 = 16**

    (a) Compare water proof & water repellant fabrics by four points each.

    (b) Define air permeability, air resistance serviceability, air porosity.

    (c) Define work of rupture & work factor.

    (d) Draw sample size for tearing strength tester. Also state principle of brusting strength testing.

    (e) Describe hydrostatic water head test for water proofness.

    (f) What are factors affecting air-permeability ?

6. **Answer any TWO :** **8 × 2 = 16**

    (a) Describe measurement of pilling by ICI pillbox tester.

    (b) Describe measurement of single yarn strength of yarn.

    (c) Describe measurement of abrasion resistance by martindales abrasion tester.

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