22232

3 Hours / 70 Marks   Seat No.

Instructions :

(1) All Questions are *compulsory.*

(2) Answer each Section on same / separate answer sheet.

(3) Answer each next main Question on a new page.

(4) Illustrate your answers with neat sketches wherever necessary.

(5) Figures to the right indicate full marks.

(6) Assume suitable data, if necessary.

(7) Use of Non-programmable Electronic Pocket Calculator is permissible.

(8) 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 Tex & English count.

(b) Compare waterproof & showerproof fabric.

(c) Calculate CSP of Yarn, if the length of yarn is 120 yards, weighing 2.315 gms & strength of lea is 86 lbs.

(d) Define :

(i) Mass stress

(ii) Elongation

(e) Define thermal insulation value.

(f) Give formula to calculate crimp percentage of warp or weft-yarn of fabric.

    (g)   Define :

         (i)   Wear

         (ii)   Abrasion

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

    (a)   Convert 48^S worsted count to English count.

    (b)   With a neat sketch explain the procedure for measurement of tearing strength of fabric.

    (c)   Calculate cover factor of fabric with following particulars :

         (i)   Warp count = 50^S Ne

         (ii)   Weft count = 40^S Ne

         (iii) Epi = 96

         (iv) PPI = 68

    (d)   Describe the procedure for measurement of water repellency of fabric with spray test with the help of a neat labelled diagram.

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

    (a)   Describe the procedure for measurement of pilling resistance of fabric with neat sketch.

    (b)   State the influence of twist on yarn & fabric properties.

    (c)   Describe the procedure for measurement of single yarn strength.

    (d)   State the factors affecting air permeability of fabric.

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

    (a)   Calculate Drape coefficient of fabric with following particulars.

        (i)   Drapped pattern paper weight = 2.7 gm

        (ii)   Ammonia paper weight = 0.012 gm/sq.cm

        (iii) Sample size = 10" in diameter

        (iv) Supporting disc dia. = 12.7 cm in dia.

    (b)   State the different assessment methods of judging abrasion damage to the fabric.

    (c)   Describe the procedure for measurement of crease recovery angle of fabric with neat sketch.

    (d)   Describe with neat sketch random & periodic variation of yarn.

    (e)   Describe with neat sketch the procedure for measurement of bursting strength of fabric.

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

    (a)   Explain in detail the random & biased sampling methods for sampling the fabric.

    (b)   Calculate yarn number in Tex, English & Metric count system of cotton yarn of length 28000 metres weighing 2.2 kg.

    (c)   With neat sketch, describe the procedure for measurement of tensile strength of fabric.

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

   (a) Calculate the bending modulus of fabric with following particulars :

   (i) Fabric overhanging length = 4 cm

   (ii) Fabric weight = 70 mg/sq. cm

   (iii) Fabric thickness = 0.027 cm

   (b) Explain the procedure for measurement of shrinkage of fabric with both hot air and hot water.

   (c) Describe with neat sketch the procedure for measurement of abrasion resistance of fabric by Martindale abrasion resistance tester.

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