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B. Tech 6th Semester Examination

Textile Testing-II

TE-6001

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Candidates are required to attempt five questions in all selecting one question from each of section A, B, C & D of the question paper and all the subparts of the question in Section E.

SECTION - A

1. (a) Explain the working principle of a Friction Tester based on dynamic principle. (8)

   (b) Discuss the test procedure to measure fabric weight. (4)

   (c) State any four precautions to be taken during evaluation of fabric thickness. (4)

   (d) What is the effect of threads/unit length and weave on drape of a fabric? (4)

2. (a) Define air permeability, air resistance and thermal insulation value of the fabric. (6)

   (b) Discuss a suitable method to measure the air permeability. (8)

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[P.T.O.]
(c) What is the importance of Constant Tension Winding Test? (6)

SECTION - B

3. (a) Distinguish between serviceability, wear and abrasion of fabrics. (4)

(b) Explain briefly the types of test done to evaluate the “Total Handle Value” of the fabric. (8)

(c) List any four reasons for pill formation on fabric surface. (4)

(d) How to measure the crease recovery of a fabric? (4)

4. (a) Discuss the factors affecting the tearing strength of a fabric. (4)

(b) What is the effect of crimp on abrasion resistance of fabric? (4)

(c) Describe any method of measuring fabric abrasion. (8)

(d) How to use gray scales? (4)

SECTION - C

5. (a) Describe the test procedure to measure the colour fastness to rubbing. (5)

(b) What is 4-point system of grading fabric? (5)

(c) Discuss the method to measure the seam strength of a woven and knitted fabric. (10)

6. (a) Describe the test procedure to measure the laundering fastness. (5)

(b) What do you mean by puckering of seam? (3)
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(c) How can you calculate the blend percentage from P/C blended yarn? (4)

(d) Illustrate all the causes of seam pucker elaborately. (8)

SECTION - D

7. (a) What are the ISO 9000 series standard? (5)

(b) How to prepare samples to check fabric strength? (5)

(c) Explain the factors that influence the customer perception of quality. (10)

8. (a) Mention the full name of sources of any four standard test methods for textiles. (4)

(b) How does ISO define quality? Explain. (4)

(c) Define reproducibility and repeatability. (4)

(d) Why is it important to know cost of quality or keep track of quality cost? (8)

SECTION - E

9. Attempt all questions in this section. (Compulsory)

(a) Name the light sources used for evaluation of colour fastness to light.

(b) Express mathematically-Drape-coefficient.

(c) How can you segregate viscose and cotton by chemical analysis?

(d) Why dynamic yarn testing instruments are preferred than that instruments worked on steady state principle?

[P.T.O.]
(e) Which "KAWABATA" instrument is used to check the tensile and shear properties of textile material?

(f) Mention the international standard for specimen length and pre-tension for a CRE tester.

(g) How seam efficiency is expressed?

(h) What is the importance to check the low stress mechanical properties of a fabric?

(i) How to collect fabric samples from a roll of a fabric for testing purpose?

(j) Arrange following textile material as per diminishing crease resistance: Silk, Cotton, Wool, Viscose, Polyester. 

\(10 \times 2 = 20\)