Register Number: ……..

M.TECH DEGREE EXAMINATIONS: MAY / JUNE 2013

Second Semester

TEXTILE TECHNOLOGY

TTX507: Fabric Quality Analysis

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

1. What are the factors affecting the tensile strength of a fabric?
2. High sett fabric tear strength is lower than low sett fabric. Comment.
3. What is the relation between fabric thickness vs thermal conductivity and fabric porosity vs thermal resistance?
4. If T is the thermal insulation of each layer of fabric, the thermal insulation of the two layers of the fabric together will be more than 2T. Comment.
5. List the factors to consider in human evaluations of thermal comfort.
6. Define the term “sensory comfort” and give the few clothing parameter that would affect the sensory comfort.
7. State the relation between bending modulus and thickness of a fabric.
8. Define shear modulus.
9. State the effect of yarn twist on fabric dimensional stability.
10. Define Limiting Oxygen Index.

PART B (5 x 16 = 80 Marks)

11. a) Describe in detail the influence of fiber, yarn and structural parameters of a fabric on tensile strength of a fabric.

(OR)

b) (i) Describe the principle and working of the Elmendorf tearing tester to measure the tear strength of a fabric. (8)

(ii) Discuss the factors affecting the tear strength of a fabric (8)

12. a) (i) Explain the environmental factor and personal factor related to the thermal comfort. (8)

(ii) Explain the various clothing factors that would affect the thermal transmission of (8)

a fabric

(OR)

b) (i) Describe the principle and measurement of water vapor permeability. (8)

(ii) Describe the principle and measurement of resistance to flow of heat. (8)

13. a) (i) With suitable diagram, explain the principle and measurement of drape coefficient of a fabric. Also discuss the factors influencing the drape coefficient of a fabric. (8)

(ii) With suitable diagram, explain the principle and measurement of crease recovery of a fabric. . Also discuss the factors influencing the crease recovery of a fabric. (8)

(OR)

b) (i) Explain the principle and measurement of pilling resistance of a fabric. (8)

(ii) Discuss in detail about the fiber and yarn parameter that would affect the pilling of a fabric. (8)

14. a) Explain in detail objective evaluation of fabric using Kawabata evaluation system

(OR)

b) Explain in detail objective evaluation of fabric using FAST

15. a) (i) Explain the procedure to determine the dimensional stability of a textile fabric. (8)

(ii) With suitable diagram, explain the various methods of flammability analysis. (8)

(OR)

b) With suitable example, explain the various evaluation techniques specific to the geotextiles.

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