Register Number.....

M.TECH. DEGREE EXAMINATIONS: DECEMBER 2009

First Semester

TEXTILE TECHNOLOGY

TTX503: Fabric Formation Mechanics and Structure

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

Answer All the Questions:-

PART A (10 x 2 = 20 Marks)

1. What is the practical importance of the cloth geometry?
2. Why is it necessary to study the tensile behavior of fabric?
3. Why is multi section weaving necessary/
4. Give the formula to calculate the weft insertion time.
5. What are the types of tucking the selvedge ends in gripper machine?
6. Compare the acceleration values of latest type of projectile machine and a shuttle loom.
7. What the pressure of air used in the air jet weaving machine?
8. What is the importance of rotary beat-up?
9. What are the types of clutches used in high speed weaving machines?
10. Why is brake necessary in a weaving machine?

PART B (5 x 16 = 80 Marks)

11. (a) Discuss the geometrical structural of twill and matt weaves.

(OR)

(b) Explain the theories related to the following:

(i) Fabric bending (ii) Buckling

(iii) Shear (iv) Drape

12. (a) Discuss about the weft accumulator technology in high speed weaving.

(OR)

(b) Calculate the weft insertion time and loom speed in a high speed weaving machine assuming suitable data.

13. (a) Explain the elastic theory of shuttle picking.

(OR)

(b) Calculate the picking force in shuttle and gripper systems assuming suitable data.

14. (a) Explain in detail the theory of air jet weft insertion.

(OR)

(b) Discuss the mechanics of beat up in a loom.

15. (a) Discuss the essential requirements of clutches and brakes used in high speed weaving machines.

(OR)

(b) With the aid of timing diagram explain the mechanics of loom brake.

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