

**SIXTH SEMESTER  
TEXTILE TECHNOLOGY  
SCHEME JULY 2008  
SHUTTLELESS WEAVING**

*Time : Three Hours*

*Maximum Marks : 100*

- Note :** i) Attempt total **six** questions. Question No.1 (objective type) is **compulsory**. From the remaining questions attempt any **five**.  
ii) Give sketch wherever necessary.

1. Choose the correct answer. 2 each
- i) In practical application hydrophobic synthetic filament yarn fabrics are generally woven on
    - a) Air jet weaving
    - b) Warp way multiphase weaving
    - c) Sulzer projectile weaving
    - d) Water jet weaving
  - ii) Which weaving machine has a weft insertion rate of more than 5000 mpm?
    - a) Tsudokoma water jet
    - b) Sulzer RUTI projectile P7200
    - c) Picanol delta air jet
    - d) Sulzer RUTI M8300 multi phase.

(2)

- iii) The kinetic energy requirement of picking unit element is lowest in the case of
- a) Air jet weaving
  - b) Water jet weaving
  - c) Conventional shuttle looms
  - d) Sulzer projectile weaving
- iv) Rapier weaving was first invented by
- a) J.C Brooks
  - b) Rudolf Rossmann
  - c) Johann Gabler
  - d) Max Pabo
- v) Wave shed machine is called for
- a) Warp way multiphase weaving
  - b) Weft way multiphase weaving
  - c) Circular weaving
  - d) Solid friction weaving

2. Explain Torsion bar picking mechanism of sulzer projectile weaving machine with suitable sketch.

18

(3)

3. What are the technical requirements of selvedge? Explain various types of selvedges formed on shuttleless weaving. 18
4. a) Give the classification of Rapier weaving. 6  
b) With the help of neat sketches explain the operating principle and the rapier drive mechanism of Dornier rigid rapier weaving. 12
5. a) What are the essential requirements of air jet weaving? Show and explain the passage of warp through Maxbo AirJet weaving. 12  
b) Compare air jet weaving with water jet weaving. 6
6. a) Classify shuttleless weaving in a tabular form and explain in brief their features. 12  
b) Explain the picking cycle and energy stream utilisation of sulzer projective weaving. 6
7. a) Explain with sketch the working of 'Staubli positive' dobby. 10

(4)

- b) What is multiphase weaving? Explain what are the advantages and disadvantages of multiphase weaving. 8

8. Write short notes on any Three of the following : 6 each

- a) Weft accumulator.
- b) How buckling effect is prevented in air jet and water jet weaving.
- c) Weft insertion rate.
- d) Different stages of developments of shuttleless weaving.

