

Register Number:

B.TECH. DEGREE EXAMINATIONS: NOV/DEC 2012

Fifth Semester

TEXTILE TECHNOLOGY

TTX109: Shuttleless Weaving

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1. Heavy fabrics cannot be woven by _____.
a) Projectile loom b) Rapier loom c) Jet loom d) Multiphase loom
2. In shuttle less weaving speed variation of weft insertion causes stress that can reach up to _____.
a) 3000 m/s² b) 5000 m/s² c) 6000 m/s² d) 7000 m/s²
3. Torsion bar picking mechanism is present in _____.
a) Projectile loom b) Rapier loom c) Jet loom d) Multiphase loom
4. Projectile weaving machine normally produces a tuck-back selvage about ____ wide.
a) 10mm b) 14mm c) 16mm d) 18mm
5. Who is regarded as the father of modern rapier technology?
a) Sulzer b) Remond Dewas c) John Gabler Black d) Robinson Dewas
6. 2-phase rapier machine in commercial operation of (width 2 x 185cm) having weft insertion rate of about _____.
a) 200 mpm b) 400 mpm c) 800 mpm d) 1200 mpm
7. In Airjet loom it is possible to achieve very high rate of weft insertion of about _____.
a) 500m/min. b) 1000m/min. c) 2000m/min. d) 5000m/min.
8. A relay jet principle is used in _____.
a) Projectile loom b) Air Jet loom c) Rapier loom d) Tappet loom
9. In Svaty water jet loom, Warp is inclined at _____ to the horizontal.
a) 26° b) 30° c) 36° d) 46°
10. Waste percentage due to false selvage is higher by _____.
a) 5 % than on a conventional loom b) 7 % than on a conventional loom
c) 12 % than on a conventional loom d) 20 % than on a conventional loom

PART B (10 x 2 = 20 Marks)

11. List any four advantages of the shuttleless looms.

12. What are the different methods of shuttleless weft insertion?
13. Write about Tuck-in selvedge.
14. Give the characteristics of projectile weaving.
15. On what criteria Rapier weaving machines are classified?
16. What is meant by Gabler system in rapier weaving?
17. What are the disadvantages of the Air jet loom?
18. On what principle air jet looms works?
19. List out any four Water jet loom requirements.
20. What are the disadvantages of the water jet loom?

PART C (5 x 14 = 70 Marks)

21. a) (i) Explain different types of weft accumulators. (9)
(ii) Give the advantages and disadvantages of weft accumulator. (5)
(OR)
b) Explain the working of circular weaving machine.
22. a) Explain in detail about the working mechanism of projectile loom picking system
(OR)
b) Explain in detail about the working weft insertion cycle in projectile loom.
23. a) Explain the working of flexible rapier weaving machine
(OR)
b) Explain different types of Rapier drivers in detail.
24. a) With neat sketch explain the working principle of Murata Airjet weaving machine.
(OR)
b) With neat sketch, explain transverse aids used in airjet loom.
25. a) Explain about the stages of weft insertion in waterjet weaving machine.
(OR)
b) Explain in detail about techno economical factors of shuttleless loom.
