

Register No:

M.TECH DEGREE EXAMINATIONS: JUNE 2011

Second Semester

TEXTILE TECHNOLOGY

TTX508: Nonwoven and Technical Textiles

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10 x 2 = 20 Marks)

1. Define Nonwovens.
2. Mention the relative production rate of various fabric manufacturing systems.
3. Mention any two mechanical web bonding methods.
4. What is spun lacing?
5. Why viscose fibre is preferred for tyre cord applications?
6. How singeing process will enhance the dust release capability?
7. What is Ventile fabric?
8. What are Visual decoys?
9. Mention any four fibres used in car seat construction?
10. What are the property requirements of the fabrics used in agriculture applications?

PART B (5 x 16 = 80 Marks)

11. a) Explain briefly about the various opening and cleaning machines used in Dry laid web formation.

(OR)

- b) (i) Classify the web laying and web bonding systems of nonwoven manufacturing process. (8)
- (ii) Write short notes on cross lapper. (8)

12. a) Explain the working principle of Needle punching process with neat sketch and various factors influencing the process.

(OR)

- b) Explain the working principle of spun bond process with neat sketch and differentiate spun bond and melt blown process.

13. a) (i) Explain the various principles of dust collection in the filtration process. (8)

(ii) Explain the different cleaning mechanism with neat sketch. (8)

(OR)

b) (i) Explain briefly the various factors considered in selection of filter fabric for dust collection. (10)

(ii) How yarn structure, weave pattern and finishing treatments influence the dust collection and dust release? (6)

14. a) (i) Explain briefly about the thermal insulation materials. (6)

(ii) Explain briefly the various methods to impart the water vapour permeability to the fabric. (10)

(OR)

b) (i) Explain briefly about the camouflage textiles. (8)

(ii) Explain briefly about the chemical and biological protective textiles. (8)

15. a) Explain briefly the application of textiles in transportation sector.

(OR)

b) Explain the various applications of agro textiles in detail.
