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J 3434

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2009.

Sixth Semester

Textile Technology

TT 1006 — NON WOVEN FABRICS

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Enlist the applications of nonwoven fabrics in technical textiles.
2. Bring out the application of hemp, wool and polyinosic fibres in nonwoven.
3. What are the requirements to be fulfilled by spin finishes applied to nonwoven made by needle punching?
4. List out the advantages of aerodynamic web forming method.
5. What are the factors that influence quality of spun bonded nonwoven?
6. Bring out the influence of fibre characteristics on needle-punched nonwoven.
7. Differentiate between adhesive and cohesive bonding.
8. What are the dyeing methods adopted for light, heavy and bonded nonwoven fabrics?
9. What is meant by the term 'Ultrasonic Welding'?
10. What is the impact of compacting and creping processes on nonwoven fabric quality?

11. (a) Discuss the suitability of various fibres for nonwoven fabrics for industrial applications.

Or

- (b) Explain the manufacture of nonwoven fabric by dry-lay method.

12. (a) Enlighten the process of manufacture of nonwovens for filtration fabric using wet-lay method.

Or

- (b) Explain the production of nonwoven by needle punching method. Bring out the limitations of this method.

13. (a) Explain the process of hot-air bonding for making nonwovens.

Or

- (b) Brief the process of adhesive bonding. Explain the measures to ensure uniform bonding.

14. (a) Detail the finishing techniques to improve dimensional stability, drape and to impart glazing.

Or

- (b) Elucidate the application of nonwovens made by melt blown and spun bonded techniques.

15. (a) What are the characteristics required to be evaluated in case of nonwoven fabric used in hygiene and medical products? Explain the procedure for testing these characteristics.

Or

- (b) Explain different methods of web laying in dry-lay method. Compare dry-laying and wet-laying methods.