

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2125)

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**B. Tech 5th Semester Examination
Nonwoven Technology (NS)**

TE-314

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all. Select one question from each section A, B, C & D. Section E is compulsory.

SECTION - A

1. (a) Discuss perspective of various textile fibres for their suitability to manufacture nonwoven fabrics. (10)
- (b) Explain the role of bonding agents and adhesive fibres in manufacturing nonwoven fabrics. (10)
2. Explain role of fibre dimension and fibre type in deciding the mechanical properties of nonwoven fabrics. (20)

SECTION - B

3. Explain various types of web formation techniques along with their merits and demerits to manufacture nonwoven. (20)
4. Discuss needle punching technology, highlight numerous factors associated and their role for effective mechanical bonding. (20)

SECTION - C

5. What is spunlacing? Discuss various factors affecting the spunlaced nonwoven fabrics. (20)

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6. Discuss in detail, various chemical bonding and thermal bonding methods available to impart bonding to a web. (20)

SECTION - D

7. Explain various standards and testing methods available to check quality of a finished nonwoven fabric. (20)
8. Discuss application of nonwoven in medical, automobile and agriculture sector/industry. (20)

SECTION - E

9. (a) Classify the nonwoven fabrics based on their bonding methods.
- (b) Why Tg of adhesive binder in nonwoven is one of the most important factor?
- (c) State stitch bonding technique in brief.
- (d) Discuss future perspective of nonwoven industry.
- (e) Discuss application of nonwoven in household and home textile sector/industry.
- (f) State spunlacing technology of manufacturing nonwoven fabric in brief.
- (g) Write short note on area bonding and point bonding.
- (h) State in brief finishing of nonwoven fabric.
- (i) Give a brief note on bonding agents and soluble fibre.
- (j) How bicomponent fibres are useful in nonwoven fabric production. (10×2=20)