

- (g) Non-woven fabrics can be produced at a very cheap rate, but we do not find any applications in apparels. State the reason.
- (h) Compare the rates of production for different methods of fabric production.
- (i) Define non-wovens as per INDA definition.
- (j) State the disadvantages of area bonding over point bonding.  $1\frac{1}{2}\times 10=15$

Roll No. ....

Total Pages : 04

**J-21-0116**

**B. Tech. EXAMINATION, 2021**

Semester VI (CBCS)

NON-WOVEN TECHNOLOGY

TE-604

*Time : 2 Hours*

*Maximum Marks : 60*

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*The candidates shall limit their answers precisely within 20 pages only (A4 size sheets/assignment sheets), no extra sheet allowed. The candidates should write only on one side of the page and the back side of the page should remain blank. Only blue ball pen is admissible.*

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**Note :** Attempt *Four* questions in all, selecting *one* question any of the each Sections A, B, C and D.  
Q. No. **9** is compulsory.

**Section A**

1. Explain the global non-woven market and current scenario. Classify non-woven fabrics on the basis of their bonding methods and application areas. **15**

2. Discuss various types of fibres used in non-woven technology. What properties of these fibres make them suitable for non-woven fabrics ? **15**

### **Section B**

3. Describe various methods of dry laying and wet laying of the webs. How does the laying of web affect properties of the needled fabric ? **15**
4. (a) Explain the working of needle punching machine with the help of a neat diagram.  
(b) Discuss various developments in the needle punching technology. **15**

### **Section C**

5. What is Thermal Bonding ? Discuss the effect of fibre structure on the properties of thermal bonded fabrics. **15**
6. Discuss the various types of dryers used in production of chemical and thermal bonded fabrics. **15**

### **Section D**

7. What is the objective of calendering in non-woven ? Discuss the factor affecting calendering process. Also discuss the types of calendering. **15**
8. What do you mean by dry finishing of non-woven ? Discuss in brief about few dry finishing techniques for non-woven fabrics. **15**

### **(Compulsory Question)**

9. (a) What are the various types of binders used in chemical bonding of non-wovens ?  
(b) Differentiate between a regular barb and close barb needle.  
(c) What is Isotropic Orientation in Webs ? What is the value of probability density function of isotropic fibre orientation ?  
(d) What do you mean by SM and SMS fabrics ? Where are they used ?  
(e) Differentiate between partial bonding and gradual bonding.  
(f) Mention the special properties required for fibres to be used for wet laying method.