

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Textile) (2011 Onwards) (Sem.-6)

NON WOVEN TECHNOLOGY

Subject Code : BTTE-605

Paper ID : [A2764]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

Q1 Answer briefly :

- a) Define Nonwoven fabrics
- b) What is depth of needle penetration? How do you measure it on the machine?
- c) What are different types of bonding agents used in chemical bonding?
- d) Compare the rates of production for different methods of fabric production.
- e) How stitch bonded fabrics are produced?
- f) Give two applications of stitch bonded fabrics.
- g) Which nonwoven technology and fibre is used in the production of Geotextiles?
- h) What is the effect of calendar temperature and delivery speed on the strength of thermal bonded fabric?
- i) What is the difference between RB and CB needles?
- j) What do you understand by Evolon? Where are they used?

SECTION-B

- Q2 Classify nonwoven fabrics on the basis of bonding methods and end use applications.
- Q3 What are various types of dryers used in the adhesive bonding? Explain the working of a dryer using conduction.
- Q4 What is oblique needle punching? Discuss various methods of oblique needle punching.
- Q5 What is thermal bonding? Illustrate the role of bicomponent fibres in thermal bonded nonwovens.
- Q6 Derive the relationship for the production of crosslapper machine. A 1.5m wide carding machine delivering 30 GSM of web is cross laid to produce a 1.5m wide fibrous sheet on a crosslapper. Find the GSM of the web produced if the angle of shift is 6° .

SECTION-C

- Q7 a) Explain the various methods of web laying.
- b) How filament separation is maintained and measured in spunbonded fabrics? (6,4)
- Q8 a) Explain the tensile behaviour of nonwoven fabrics.
- b) Compare the properties of spunlace fabrics with other type of nonwoven fabrics in terms of comfort characteristics. (5,5)
- Q9 a) Differentiate between point bonding and area bonding techniques and fabric characteristics.
- b) Explain the methods of bonding agent application with the help of slop padding and screen printing. What factors affect the amount of bonding agent application? (4,6)