Dec.-22-0288

TE-604 (Non-Woven Technology)

B.Tech. 6th (CBCS)

Time : 3 Hours   **Max. Marks : 60**

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 : There are five Sections A, B, C, D and E. Attempt any one question each from Section A, B, C. Section E is compulsory. Attempt all the questions in this Section.

SECTION - A

1. Define nonwoven fabric. Give the classification of non-woven fabrics.   (10)

2. State the type of bonding technique and bonding agents. Also, explain the cross linking phenomenon.   (10)

SECTION - B

3. Explain the needle punching technology, needle punching machine and example of their utility.   (10)

4. Explain the spunlaying, melt blowing and spun bond-melt blow-spun bond (SMS) technique of web formation.   (10)

SECTION - C

5. Define the convection and conduction. How these mechanism influence the chemical bonding?   (10)

6. Explain the thermal bonding techniques and give some examples.   (10)

SECTION - D

7. State the calendaring, coating and laminating process in nonwoven finishing.   (10)

8. Define and classify the technical textile. Give the name of nonwoven product used in medical, hygiene automotive field.
                                                        (10)

SECTION - E

9. (i)   Which of the following standards has been adapted by ASTM for the definition of nonwovens

  (a) ISO

  (b) EN

  (c) DIN

  (d) None of them

(ii)   Fabric structure most suitable for filtration is

  (a) Plain woven

  (b) Twill fabric

  (c) Satin weave

  (d) Melt blown non-woven

(iii)   What are the various uses of non-woven fabric?

(iv)   State the factors affecting spunlaced fabric.

(v)   Define the terms SM and SMS fabrics.

(vi)   What are the adhesive fibres?

(vii)   What are the soluble fibres?

(viii)   Give two examples of development of nonwoven industry.

(ix)   Define the web formation and its types.

(x)   Define shrinkage and how it effects the fabric finishing?
                                                     (10×2=20)