Roll No. ..... Total Pages : 03

BT-7/D-13 **8786**

NON-WOVEN TECHNOLOGY

TT-423

Time : Three Hours] [Maximum Marks : 100

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) What are major fibers used for manufacturing of nonwovens ? Discuss the major application area of nonwoven fabrics in brief. **10**

   (b) Differentiate between woven and nonwoven fabric. Classify nonwoven fabrics and give the brief idea of different techniques you have mentioned in your classification. **10**

2. (a) Discuss the techniques of formation Parallel laying and Cross laying web by carding methods. How do properties of fabric change with above techniques ? **20**

(b) Compare spun-bond technique and melt blown technique. What are the major advantages of both techniques ? **10**

Unit II

3. (a) "The structure and property of needle punch fabric depends on various factors." Discuss in detail. **10**

   (b) With the help of suitable diagram explain the basic mechanism of binding nonwoven fabrics in needle punching machine. **10**

4. Compare stitch bonding techniques in between 'with binding threads' and 'without binding threads' and describe the method of manufacturing nonwoven fabrics by stitch bonding technique 'with binding thread system' on a Malivlies machine. **20**

Unit III

5. What are the characteristics required for a good binder ? What are the different forms of binder ? Discuss in brief methods of bonding nonwoven fabrics by different binding agents. **20**

6. (a) What are the factors that affect the property of calender bonded products ? Discuss in brief methods of bonding nonwoven fabrics by using hot calendering technique. **15**

   (b) Discuss the fusion bonding technique in brief. **5**

Unit-IV

7. (a) What type precautions are required for each type of chemical finishing of non-woven fabric ? **10**

   (b) Discuss in brief the different methods of chemical finishing on non-woven fabric. **10**

8. (a) What are differences between water absorbency and water repellent ? How can you measure these properties for nonwoven fabric ? **10**

   (b) What are the defects normally occurred during nonwoven production ? Explain with the help of suitable diagram. **10**