

Roll No.

Total Pages : 03

BT-7/D-1 9 37189
TECENICAL TEXTILES-I
TT-401N (Opt. 1)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt Five questions in all, selecting at least one question from each Section. Q. No. 1 of Section A is compulsory.

Section A

- 1.(a) Name three centres of Excellence of technical textiles allotted by Minisfry of Textiles, GOI along with their agencies..
- (b) What is meant by Geosynthetic ?
- (c) What is the importance of automotive safety devices ?
- (d) Define filtration efficiency.
- (e) Name three fibres used to produce Flame Retardant fabrics.
- (f) Define Woven and Non-woven Geotextiles.
- (g) What is the role of filter media ? (h) What does TMTT stands for ?

- (i) What is the thickness and density required for nonwoven textile filter media ?
- (j) Why is Carbon Fibre Considered more suitable for technical textiles ? **1.5×10=15**

Section B

2. (a) What are Technical Textiles ? Discuss different types of technical textiles with their applications.
- (b) Explain Technological Innovations Supporting advancements of technical textiles. 10+5=15
3. (a) Write a detailed note on technical fibres, role of yarn and fabric construction along with composites.
- (b) What are desirable requirements of materials to be used as technical textiles ? 7+8=15

Section C

4. (a) Discuss the principle of filtration. What are the different filtration media use now a days ? What are the factors consider for selecting filter media ? Discuss the advantages and disadvantages of textile filters.
- (b) Discuss the theory of dust collection and solid liquid separation. 10+5=15

5. (a) Elaborate Mathematical model for filtration.
(b) Write a note on pore size and *particle size* in reference to filtration. Section D **8+7=15**

6. (a) Describe the mechanism of reinforcement, filtration for seat belts and drainage by Geotextile. Highlight the selection criteria of fibre and fabric to be used for geotextile applications.
(b) How can the life of geotextile in soil be tested ?

10+5=15

7. (a) Describe various types of Geosynthetics and their uses.
(b) Highlight the fibre requirements of geotextiles. What are the test generally performed on geotextiles ? Discuss in detail. <http://www.kuonline.in>

Section E

8. (a) Outline the processes used to produce airbags and passengers' cars.
(b) How can textile be considered as structural elements in transport vehicles ? 10+5=15
9. Write notes on the following :
(i) Headliners
(ii) Filters used in Automotive
(iii) Technical Textiles in marine.