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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Textile Engg.) (2011 Onwards) (Sem.-8)

TECHNICAL TEXTILES

Subject Code : BTTE-804

M.Code : 72373

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**1. Answer briefly :**

- a) Industrial filter fabrics are predominantly surface filters.
- b) Evaluation of nonwoven pores through critical bubble pressure technique is useful for characterization of fabric for filtration.
- c) Mostly the type of fabric suitable for air filtration is not suitable for liquid filtration.
- d) HVAC filters work in different principle than industrial filter.
- e) Textile structural composite materials are used in making many sports goods.
- f) In liquid filtration, the combination of spun yarn and filament yarn in a twill/satin weave construction is better than plain woven fabric composed of either of the above type of yarn.
- g) Depending on the hydraulic situation O_{90} pore size geotextiles should be reduced from $5D_{90}$ towards D_{90} as the ground situation deteriorates.
- h) Under the soil, enhancement of fabric strength is higher in case of nonwoven fabric than woven fabric geotextiles.
- i) Melt blown nonwoven fabric offers higher filtration efficiency.
- j) Layered fabric construction in sports uniform can perform well in regulating moisture over the skin.

SECTION-B

2. Discuss about the construction and composition of a sports garment used at very cold climate. 5
3. Discuss the effect of particle size, dust concentration and filtration velocity on the filtration performance of industrial filter bag house. 5
4. Discuss how a geotextiles under the railway track usually satisfy many functional requirements. 5
5. Differentiate between reverse jet and pulse jet filtration in terms of mechanism, working and their suitability. 5
6. Discuss the composition/constructions of the following :
 - a) Sutures 2
 - b) Wound dressing material 3

SECTION-C

7. Define the following parameters and state their significance for geotextiles :
 - a) Permittivity 2
 - b) Transmittivity 2
 - c) O_{95} 2
 - d) Creep 2
 - e) Shear angle 2
8. Discuss the manufacturing process of tyre cord and also state its quality characteristics. 5+5
9.
 - a) State the characteristics to be tested to evaluate the suitability geotextile material for the following application :
 - i. Embankment stability 2.5
 - ii. Retaining wall 2.5
 - b) Show the arrangement of the apparatus for testing permittivity and transmittivity of geotextile material. State the impact of thickness on the above characteristics. 5

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.