

B. Tech 8th Semester Examination

Technical Textile (NS)

TE-424

Time : 3 Hours

Max. Marks : 100

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 : Attempt five questions in all. Selecting one question from each of the section A, B, C and D and all subparts of the question in section E.

SECTION - A

1. (a) Discuss in brief the principle of filtration mechanism. (10)
(b) Discuss different categories of textile filter medium and their scope of application. (10)
2. Explain the effect of following on filtration efficiency.
(a) Fabric density (b) Fibre fineness (c) Fibre geometry
(d) calendaring and heat setting. (20)

SECTION - B

3. (a) What do you mean by geotextile? Discuss the scope of application of geotextile. (10)
(b) Discuss in brief the importance of following properties of a geotextile and principle of evaluation process of the following:
(i) Cross water permeability (ii) Puncture resistance (10)
4. (a) What are the essential requirements of bandage fabrics? Discuss in brief the use of compressive bandage and retention bandage in medicine. (10)

- (b) Discuss scope of application of following specialty medical fibres.
(i) Superabsorbent fibres (ii) carbon fibres (iii) Chitin
(iv) Alginates'. (10)

SECTION - C

5. (a) What do you mean by protective clothing? Classify protective clothing according to their use with one example of each. (10)
(b) Discuss functional requirement of protective clothing used for ballistic protection. (10)
6. (a) What do you mean by waterproof breathable fabric? Discuss the constructional details of water proof breathable fabric. (10)
(b) Discuss in brief the functional requirements of different category of sports textile. (10)

SECTION - D

7. (a) What are basic requirements of fabrics to be used as tarpaulin and conveyor belt? (10)
(b) Discuss in brief the types of fibre and fabric constructional parameters for fabrics meant for tarpaulin. (10)
8. (a) Discuss the properties and performance requirements of fabrics used in automotive tires. (10)
(b) Discuss application of textiles in agricultural sector. (10)

SECTION - E

9. Attempt all questions.
(i) What do you mean by composite? Give one example of composite
(ii) What is aramid fibre? Give one example of its use.
(iii) What do you mean by air permeability?
(iv) What do you mean by filtration efficiency?
(v) What is bursting strength? What is its importance?
(vi) Define LOI.
(vii) Mention use of resorbable fibres,
(viii) What is flex resistance?
(ix) What do you mean by optical fibre?
(x) Give example of two finishing treatment for filter fabric and mention their objectives. (10×2=20)