Roll No. ....   Total Pages : 3

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TEXTILE COMPOSITE

Paper–TT-422

Time Allowed : 3 Hours]   [Maximum Marks : 100

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit.

UNIT–I

1. What do you mean by Textile Composites ? Discuss different fibre characteristics, properties and architectures used for Textile Composites.   20

2. What do you mean by 3-D Composite structure ? How fibre architecture influences the properties of Textile Composites ? With the help of neat sketches, explain the development of Unidirectional Textile Composites.   20

UNIT–II

3. What are the different matrix types used in Textile Composites ? With the help of suitable examples, discuss the properties of Matrices and in Textile Composites. Also discuss the properties and applications of Fibre-matrix interface.   20

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4. What do you understand by Reinforcing materials ? With the help of neat sketches, discuss the effect of the geometry of Reinforcing materials on the properties of Textile Composites. 20

UNIT–III

5. What do you mean by Toughness and Thermal behaviour of Textile Composites ? How Textile Composite designs are developed ? Explain with the help of suitable example. Explain the various techniques of Textile Composite designs and fabrication. 20

6. What are the uses of Composites for Structural Engineering ? Explain briefly with suitable examples and designs. With the help of suitable examples, discuss the applications of Textile Composites in Sporting goods. 20

UNIT–IV

7. What do you mean by Tensile, Bending and Compression properties of Textile Composites ? With the help of suitable sketches, explain the Testing methods and evaluation techniques of above properties of Textile Composites. 20

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8. What do you understand by Case Studies ? With the help of suitable examples, explain how Case studies are useful in designing and analysis of Textile Composite. Also discuss the application of Textile Composite designs for the Woven Spacer performs. 20