B. Tech.
(SEM. VIII) EXAMINATION, 2006-07
NEW FIBRES & FIBRES FOR COMPOSITION

Time : 3 Hours] [Total Marks : 100

Note :  (1) Attempt all questions.
(2) All questions carry equal marks.

1. Attempt any four :
   (a) Discuss the physical properties of aromatic polyamides.
   (b) Describe the structure of polyamide and hence give the advantages of using aromatic polyamides.
   (c) What is the raw material used for producing carbon fibres? Give a brief outline of the various processes required to obtain the same.
   (d) (i) Give examples of carbon containing fibres along with their trade name.
        (ii) Give the different types of carbon fibres.
   (e) Describe the physical properties of carbon fibres.
   (f) What are the advantages of using carbon fibres hence discuss it’s various applications.

2. Attempt any four :
   (a) State the different types of glass fibres and give their main components.
   (b) Discuss the chemical and electrical properties of glass fibres.

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(c) Give a brief outline of the various stages involved in obtaining glass fibre in staple form and draw a neat sketch describing the same.

(d) Discuss the end uses of glass fibres in the textile industry.

(e) Give the various end use applications of Boron Fibres.

(f) (i) State the main components of the silicone carbide fibres.

(ii) Give the various end uses of silicon carbide fibres.

3. Attempt any two:

(a) Give examples of different metallic fibres used as and in textiles. Discuss the advantages of metallic fibres and hence give their end uses.

(b) Discuss the physical and chemical properties of any natural mineral fibre.

(c) Describe the manufacturing process of any metallic fibre used as and in textiles.

4. Attempt any two:

(a) Write a brief note on epoxy atrix polyester matrix

(b) Compare thermoset and thermoplastic matrix material

(c) Discuss the construction and application of coupling agent filters.

5. Attempt any two:

(a) Discuss the incorporation of fibres into matrix.

(b) Describe the process of compression moulding.

(c) Write a brief note on Pultrusion.