Roll No. | | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 08

M.Tech (ECE)EL (2018 Batch) (Sem.–3)

COMPOSITE MATERIALS

Subject Code : MTOE-O301E-18

M.Code : 76591

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1.Attempt any FIVE questions out of EIGHT questions.

2.Each question carries TWELVE marks.

1. Distinguish between alloys and composite materials. Give a detailed classification of composite materials.
2. Write a note on the following :
   a) Properties and applications of whisker reinforcement
   b) Inverse rule of mixtures
3. Discuss in detail the preparation procedure, properties and applications of glass fibers.
4. Explain the working principle of manufacturing ceramic matrix composites by liquid phase sintering technique. Also give its properties and applications.
5. Elaborate diagrammatically the working principle of manufacturing polymer matrix composites by hand layup method. State its properties and applications.
6. Derive the constitutive equations for a multidirectional composite in a hygrothermal environment.
7. Explain with the help of a neat sketch the autoclave method for manufacturing polymer matrix composites. Also state its specific applications, advantages and disadvantages.
8. Explain the following :
   a) Maximum stress criteria
   b) Interacting failure criteria

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.