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

Total No. of Questions : 08

M.Tech.(EE) EL-IV/(Power System/ECE/Food Technology)(2018 Batch) (Sem.–3)

COMPOSITE MATERIALS

Subject Code : MTOE-301E-18

M.Code : 76547

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

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWELVE marks.**

Q1. Why are fiber reinforcements of thin diameter? How do you classify composites based on the matrix used? Give the applications of composite materials.

Q2. Write a note on the following :

a) Properties and applications of particle reinforcement.

b) Rule of mixtures.

Q3. Discuss in detail the preparation procedure, properties and applications of boron fibers.

Q4. Explain the working principle of manufacturing metal matrix composites by hot isostatic pressing technique. Also give its properties and applications.

Q5. Elaborate diagrammatically the working principle of manufacturing polymer matrix composites by reaction injection molding method. State its properties and applications.

Q6. Elaborate the working principle of weaving technique for manufacturing carbon composites. Also give the product applications.

Q7. What are the functional requirements of reinforcement and matrix? Discuss the effect of size and volume fraction on the performance of composites.

Q8. Explain the following :

a) Hygrothermal failure

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.