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

Total No. of Questions : 8

M.Tech. (ECE) EL-III (2018 Batch) (Sem.–2)

SATELLITE COMMUNICATION

Subject Code : MTEC-PE3A-18

M.Code : 76261

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. Explain the principles and architecture of satellite communication in detail.
2. a) Discuss the advantages and disadvantages of satellite systems.
   b) Explain atmospheric and ionospheric losses in satellite communication.
3. a) Write a brief note on apogee and perigee for an elliptical orbit.
   b) Explain Attitude and orbit control system (AOCS) in brief.
4. Explain the drafting of satellite link budget and C/N ratio calculations in clear air and rainy conditions.
5. a) Discuss in detail the antenna sub system in satellite communication.
   b) What is Doppler frequency shift? Also explain the expression for Doppler shift.
6. Explain modulation and multiple access schemes used in satellite communication.
7. a) Explain flux density and received signal power equations in detail.
   b) Discuss the effects and remedies for sun transit outage in satellite communication.
8. a) Describe the operation of typical VSAT system.
   b) Write short notes on following :
      i) Geo-stationary orbit
      ii) GPS and its uses

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.